

CITY OF NEWTON
PURCHASING DEPARTMENT

CONTRACT FOR PUBLIC WORKS - UTILITIES DIVISION
(M.G.L. Ch. 30, Sec. 39m)

PROJECT MANUAL:
PUMP STATION REPAIRS
QUINOBEQUIN PUMP STATION
INVITATION FOR BID #11-06

JULY 2010
Setti D. Warren, Mayor

CITY OF NEWTON, MASSACHUSETTS

PURCHASING DEPARTMENT

purchasing@newtonma.gov

Fax (617) 796-1227

August 10, 2010

ADDENDUM #2

INVITATION FOR BID #11-06

PUMP STATION REPAIRS @ QUINOBEQUIN PUMP STATION

THIS ADDENDUM IS TO: Answer the following Question:

Q1. Section 1.03 SYSTEM DESCRIPTION

A. The wastewater pumping equipment shall consist of a pump and motor to replace the existing pumps and motor at the pump station listed above with parameters as specified in the pump and motor section (2.02) **including frame, seal, coupling, and electrical system interface.**

Section 2.02 PUMPING EQUIPMENT SCHEDULE

A. "The contractor shall furnish and install **vertically mounted, coupled**, end suction, solids handling, centrifugal pump unit as specified herein at the location listed below:"

Section 2.03 PUMP

A. The centrifugal pump shall be a **vertical close-coupled** type unit. The unit shall include pump, high ring base, **coupling, coupling guard** and vertical solid shaft motor.

QUESTION: Based on the above it is very unclear as to whether you are specifying a vertical coupled pump or a vertical close coupled pump. The specification mentions portions of each of the types of pump configurations. Please clarify the specification as to whether the pump should be vertical coupled with bearing frame or vertical close coupled as the price difference between the two is significant.

A1. Section 2.03 PUMP

The centrifugal pump shall be a vertical close-coupled type unit. The unit shall include pump, high ring base, coupling, coupling guard and vertical solid shaft motor.

All other terms and conditions of this bid remain unchanged

PLEASE ENSURE THAT YOU ACKNOWLEDGE THIS ADDENDUM ON YOUR BID FORM

Thank you.



Maureen Lemieux
Acting Chief Procurement Officer

CITY OF NEWTON, MASSACHUSETTS

PURCHASING DEPARTMENT

purchasing@newtonma.gov

Fax (617) 796-1227

August 6, 2010

ADDENDUM #1

INVITATION FOR BID #11-06

PUMP STATION REPAIRS @ QUINOBEQUIN PUMP STATION

THIS ADDENDUM IS TO: **Correct the Bid Document to Read:**

Any reference to Wastewater Pump and Motor #3 should be changed to Pump and Motor #4 throughout the bid document.

All other terms and conditions of this bid remain unchanged

PLEASE ENSURE THAT YOU ACKNOWLEDGE THIS ADDENDUM ON YOUR BID FORM

Thank you.



Maureen Lemieux

Acting Chief Procurement Officer

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QUINOBEQUIN PUMP STATION

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END OF SECTION

**CITY OF NEWTON
PURCHASING DEPARTMENT
INVITATION FOR BID #11-06**

The City of Newton invites sealed bids from Contractors for

QUINOBEQUIN PUMP STATION REPAIRS

Pre Bid Conference: 11:30 a.m. on August 5, 2010 at 136 Quinobequin Road

Bids will be received until: 11:30 a.m. on August 12, 2010

at the Purchasing Department, Room 204, Newton City Hall, 1000 Commonwealth Ave., Newton, MA 02459. Immediately following the deadline for bids all bids received within the time specified will be publicly opened and read aloud.

The work under this contract shall consist of: BASE BID: remove and replace existing wastewater pump and motor #3 at the Quinobequin Pump Station, Newton, MA and all appurtenances as specified. ALTERNATE #1, if funding allows, remove existing starter from pump #3 install new 150-horsepower adjustable frequency drive above the existing motor control center.

All bids must be accompanied by a bid deposit in an amount that is not less than five percent (5%) of the value of the bid, including all add alternates. **All bids must be submitted with one ORIGINAL and one COPY.**

Contract Documents will be available online at the City's website: www.ci.newton.ma.us/bids after: **10:00 a.m., July 29, 2010.** Bidders are responsible for downloading the specifications from the City's web site at www.ci.newton.ma.us/bids. Bidders are requested to email the Purchasing Department (purchasing@newtonma.gov) their Company Name, Address, Email address, Phone & Facsimile number and what bid # (i.e. 10-86) they have downloaded.

All bids are subject to the provisions of M.G.L. Chapter 30, Section 39M. **Wages are subject** to minimum wage rates determined by the Massachusetts Department of Labor and Industries pursuant to M.G.L. Chapter 149, Sec. 26 to 27H. The schedule of wage rates applicable to this contract is included in the bidding documents. In addition, the prevailing wage schedule will be updated annually for all public construction projects lasting longer than one (1) year. You will be required to pay the rates set out in any updated prevailing wage schedule. Increases in prevailing wage schedules will not be the basis for change order requests. The successful bidder will be required to provide a Certificate of Insurance demonstrating current coverage of the type and amounts set forth in the Project Manual. The successful bidder will be required to furnish a **Labor and Materials Payment Bond in the amount of 50%** of the contract total.

Award will be made to the bidder with the lowest responsive and eligible bid.

Time is of the essence in the performance of the work of this contract. Bidders attention is directed to the time for completion stated in the Project Manual and the provisions regarding the assessment of liquidated damages for failure to complete the work within the time specified of **ninety (90) calendar days.**

It is the sole responsibility of the contractor downloading these bids to ensure they have received any and all addenda prior to the bid opening. Addenda's will be available online www.ci.newton.ma.us/bids within the original bid document as well as a separate file. If you download bids from the internet site and would like to make it known that your company has done so, you may fax the Purchasing dept. (617) 796-1227 or email purchasing@newtonma.gov with your NAME, ADDRESS, PHONE, FAX AND **INVITATION FOR BID NUMBER..**

The City of Newton's Purchasing Dept. converted to an email notification system of all upcoming public bids effective July 1, 2009. If you wish to receive notification of bids, please email us your company information to purchasing@newtonma.gov, otherwise you may view all City of Newton public bids online at www.ci.newton.ma.us/bids.

The City of Newton will reject any and all bids when required to do so by the above referenced General Laws. In addition, the City of Newton reserves the right to waive any informalities in any or all bids, or to reject any or all bids (in whole or in part) if it be in the public interest to do so.

CITY OF NEWTON
Maureen Lemieux
Interim Chief Procurement Officer
July 29, 2010

CITY OF NEWTON
DEPARTMENT OF PURCHASING
INSTRUCTIONS TO BIDDERS

ARTICLE 1 - BIDDER'S REPRESENTATION

- 1.1 Each General Bidder (hereinafter called the "Bidder") by making a bid (hereinafter called "bid") represents that:
1. The Bidder has read and understands the Contract Documents and the bid is made in accordance therewith.
 2. The Bidder has visited the site and is familiar with the local conditions under which the Work has to be performed.
- 1.2 Failure to so examine the Contract Documents and site will not relieve any Bidder from any obligation under the bid as submitted.

ARTICLE 2 - REQUEST FOR INTERPRETATION

- 2.1 Bidders shall promptly notify the City of any ambiguity, inconsistency, or error which they may discover upon examination of the Contract Documents, the site, and local conditions.
- 2.2 Bidders requiring clarification or interpretation of the Contract Documents shall make a written request to the *Chief Procurement Officer*, at purchasing@newtonma.gov or via facsimile (617) 796-1227. The City will answer such requests if received seven (7) calendar days before the date for receipt of the bids.
- 2.3 Interpretation, correction, or change in the Contract Documents will be made by Addendum which will become part of the Contract Documents. The City will not be held accountable for any oral instruction.
- 2.4 Addenda will be emailed to every individual or firm on record as having downloaded a set of Contract Documents. Addenda will also be posted on the City's website at www.ci.newton.ma.us/bids. Any bidder downloading the IFB and any plans for a City bid shall email their company's information along with the IFB # and Project Title that they downloaded. You will then be added to the bidder's list and email distribution list.
- 2.5 Copies of addenda will be made available for inspection at the location listed in the Invitation for Bids where Contract Documents are on file, in addition to being available online at www.ci.newton.ma.us/bids.
- 2.6 Bidders downloading information off the internet web site are solely responsible for obtaining any addenda prior to the bid opening. If the bidder makes themselves known to the Purchasing Dept., at purchasing@newtonma.gov or via facsimile (617) 796-1227, they shall be placed on the bidder's list. Bidders must provide the Purchasing dept. with their company's name, street address, city, state, zip, phone, fax and **INVITATION FOR BID NUMBER #11-06**.

ARTICLE 3 - MBE PARTICIPATION

- 3.1 By bidding on this project each Bidder certifies its intent to comply with the City of Newton Minority/Women Business Enterprise Plan dated December 1999 to further expand business opportunities for minority firms. A copy of this plan is incorporated in the Project Manual.
- 3.2 Bidders are advised that the City of Newton Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program is applicable to all construction contracts in excess of \$50,000.00. A copy of this program is incorporated in the Project Manual. A Contractor's Certification form must be signed by all successful low bidders prior as a condition of contract award. No contract shall be executed or valid unless the contractor has executed and submitted the Contractor's Certification. (see Attachment B to the Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program.)

- 3.3 The awarded bidder shall, prior to the award of any sub-contract, obtain from each of its sub-contractors the Sub-Contractors Certification certifying the Sub-Contractor shall comply with the minority manpower ratio and specific affirmative action steps described in the Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program contained in the Project Manual. (see Attachment C to the Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program.)

ARTICLE 4 - PREPARATION AND SUBMISSION OF BIDS

- 4.1 Bids shall be submitted on the "Bid Form" as appropriate, furnished by the City.
- 4.2 All entries on the Bid Form shall be made by typewriter or in ink.
- 4.3 Where so indicated on the Bid Form, sums shall be expressed in both words and figures. Where there is a discrepancy between the bid sum expressed in words and the bid sum expressed in figures, the words shall control.
- 4.4 Bid Deposits shall be submitted in the amount specified in the Invitation for Bids. They shall be made payable to the City of Newton and shall be either in the form of cash, certified check, treasurer's or cashier's check issued by a responsible bank or trust company, or a bid bond issued by a surety licensed to do business in the Commonwealth of Massachusetts; and shall be conditioned upon the faithful performance by the principal of the agreements contained in the bid.
- Bid deposits of the three (3) lowest responsible and eligible Bidders shall be retained until the execution and delivery of the Owner/Contractor agreement.
- 4.5 The Bid, including the bid deposit shall be enclosed in a sealed envelope with the following plainly marked on the outside:
- * GENERAL BID FOR:
 - * NAME OF PROJECT AND **INVITATION NUMBER**
 - * **BIDDER'S NAME, BUSINESS ADDRESS, AND PHONE NUMBER**
- 4.6 Date and time for receipt of bids is set forth in the Invitation for Bids.
- 4.7 Timely delivery of a bid at the location designated shall be the full responsibility of the Bidder.
- 4.8 Bids shall be submitted with **one original and one copy**.
- 4.9 The use of a company or brand name, except with software, in the specifications is intended solely for the purpose of describing a standard of quality, functional features and performance standards required and is not intended to limit or restrict competition. The bidder offering a product which they deem equal to the brand and model specified in the solicitation provided that the brand name specified is not followed by the words "no substitutions", **shall indicate so on the bid form and Minimum Requirements – Exception form** and submit with their bid the manufacturers specifications/descriptive literature for the product they are offering. **Failure to submit manufacturers specifications/descriptive literature with bids may be cause for bid rejection.**

"Equality" - An item equal to that named or described in the specifications of the contract may be furnished by the Vendor and the naming of any commercial name, trademark or other identification shall not be construed to exclude any item or manufacturer not mentioned by name or as limiting competition but shall establish a standard of equality only. An item shall be considered equal to the item so named or described if (1) it is at least equal in quality, durability, appearance, strength and design; (2) it will perform at least equally the function imposed by the general design for the work being contracted for or the material being purchased; and (3) it conforms substantially, even with deviations, to the detailed requirements for the item in the specifications. The name and identification of all materials other than the one specifically named shall be submitted to the City in writing for approval, at time of bid, use or fabrication of such items. Subject to the provisions of M.G.L., Ch. 30, Sec. 39J, approval shall be at the sole discretion of the City, shall be in writing to be effective, and the decision of the City shall be final. The City may require tests of all materials so submitted to establish quality standards at the Vendor's expense. All directions, specifications and recommendations by manufacturers for installation, handling, storing, adjustment and operation of their equipment shall be complied with; responsibility for proper performance shall continue to rest with the Vendor.

- 4.10 Be advised that a new Massachusetts law has been enacted that required all employees who work on Massachusetts public works construction sites must have no less than 10 hours of OSHA-approved safety and health training. See Chapter 306 of the Acts of 2004, which will become effective July 1, 2006.

1. This requirement will apply to any general bid or sub bid submitted on or after July 1, 2006 and to any contract awarded on or after July 1, 2006.
2. This law directs the Massachusetts Attorney General to restrain the award of construction contracts to any contractor who is in violation to this requirement and to restrain the performance of these contracts by non-complying contractors.
3. The contractor and all subcontractors on this project will be required to provide certification of compliance with this requirement. Non-compliance with this new Massachusetts Law will disqualify you from bidding on public contracts.

ARTICLE 5 - ALTERNATES

- 5.1 Each Bidder shall acknowledge Alternates (if any) in Section C on the Bid Form.
- 5.2 In the event an Alternate does not involve a change in the amount of the base bid, the Bidder shall so indicated by writing "No Change", or "N/C" or "0" in the space provided for that Alternate.
- 5.3 Bidders shall enter on the Bid Form a single amount for each Alternate which shall consist of the amount for work performed by the Contractor.
- 5.4 The low Bidder will be determined on the basis of the sum of the base bid and the accepted alternates.

ARTICLE 6 - WITHDRAWAL OF BIDS

- 6.1 Any bid may be withdrawn prior to the time designated for receipt of bids on written or telegraphic request. Telegraphic withdrawal of bids must be confirmed over the Bidder's signature by written notice postmarked on or before the date and time set for receipt of bids.
- 6.2 Withdrawn bids may be resubmitted up to the time designated for the receipt of bids.
- 6.3 No bids shall be withdrawn for sixty days, Saturdays, Sundays and legal holidays excluded, after the opening of the bids.

ARTICLE 7 - CONTRACT AWARD

- 7.1 The City of Newton will award the contract to the lowest eligible and responsible Bidder within sixty days, Saturdays, Sundays, and legal holidays excluded after the opening of bids.
- 7.2 The City of Newton reserves the right to waive any informalities in or to reject any or all Bids if it be in the public interest to do so.
- 7.3 As used herein, the term "lowest responsible and eligible Bidder" shall mean the Bidder (1) whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; (2) who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (3) who, where the provisions of section eight B of chapter twenty-nine apply, shall have been determined to be qualified thereunder.
- 7.4 It is the purpose of the City not to award this contract to any bidder who does not furnish evidence satisfactory to the Chief Procurement Officer that he has the ability and experience in this class of work and that he has sufficient capital and plant to enable him to prosecute the same successfully and to complete it within the specified time and that he will complete it in accordance with the terms thereof.
- 7.5 Subsequent to the award and within five (5) days, Saturday, Sundays and legal holidays excluded, after the prescribed forms are presented for signature, the successful Bidder shall execute and deliver to the City a Contract in the form included in the Contract Documents in such number of counterparts as the City may require.
- 7.6 In the event that the City receives low bids in identical amount from two or more responsive and responsible Bidders, the City shall select the successful Bidder by a blind selection process such as flipping a coin or drawing names from a hat. The low Bidders who are under consideration will be invited to attend and observe the selection process.

ARTICLE 8 - TAXES

- 8.1 The Bidder shall not include in this bid any tax imposed upon the sale or rental of tangible personal property in this Commonwealth, such as any and all building materials, supplies, services and equipment required to complete the work.
- 8.2 The City is exempt from payment of the Massachusetts Sales Tax, and the Bidder shall not include any sales tax on its bid. The City's exemption Number is E-046-001-404.

END OF SECTION

CITY OF NEWTON
DEPARTMENT OF PURCHASING
BID FORM #11-06

- A.** The undersigned proposes to furnish all labor and materials required in accordance with the Contract Documents supplied by the City of Newton entitled:

QUINOBEQUIN PUMP STATION REPAIRS

for the contract price specified below, subject to additions and deduction according to the terms of the specifications.

- B.** This bid includes addenda number(s) _____, _____, _____, _____,

- C.** The proposed contract price is:

BASE BID: remove/replace pump & motor #3

_____ DOLLARS (\$ _____).

ALTERNATE #1: replace starter from motor #3

_____ DOLLARS (\$ _____).

COMPANY: _____

- D.** The undersigned has completed and submits herewith the following documents:

- ☐ Bid Form - signed, 2 pages
- ☐ Bidder's Qualification Form and References, 2 pages
- ☐ 5% Bid Surety

- E.** The undersigned agrees that, if s/he is selected as general contractor, s/he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price.

The undersigned hereby certifies that s/he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work and that s/he will comply fully with all laws and regulations applicable to awards made subject to section forty-four A of M.G.L. Chapter 30, s 39M.

The undersigned certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration ("OSHA") that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States OSHA that is at least 10 hours in duration. The undersigned understands that any employee found on a worksite subject to this section without documentation of successful completion of a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration shall be subject to immediate removal.

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date _____

(Name of General Bidder)

BY: _____

(Printed Name and Title of Signatory)

(Business Address)

(City, State, Zip)

(Telephone)

/_____
(FAX)

(E-mail address)

NOTE: If the bidder is a corporation, indicate state of incorporation under signature, and affix corporate seal; if a partnership, give full names and residential addresses of all partners; if an individual, give residential address if different from business address; and, if operating as a d/b/a give full legal identity. Attach additional pages as necessary.

END OF SECTION

CITY OF NEWTON

BIDDER'S QUALIFICATIONS AND REFERENCES FORM

All questions must be answered, and the data given must be clear and comprehensive. Please type or print legibly. If necessary, add additional sheet for starred items. This information will be utilized by the City of Newton for purposes of determining bidder responsiveness and responsibility with regard to the requirements and specifications of the Contract.

1. FIRM NAME: _____
2. WHEN ORGANIZED: _____
3. INCORPORATED? ☐ YES ☐ NO DATE AND STATE OF INCORPORATION: _____
- * 4. LIST ALL CONTRACTS CURRENTLY ON HAND, SHOWING CONTRACT AMOUNT AND ANTICIPATED DATE OF COMPLETION:

- * 5. HAVE YOU EVER FAILED TO COMPLETE A CONTRACT AWARDED TO YOU?
☐ YES ☐ NO
IF YES, WHERE AND WHY?

- * 6. HAVE YOU EVER DEFAULTED ON A CONTRACT? ☐ YES ☐ NO
IF YES, PROVIDE DETAILS.

- * 7. LIST YOUR VEHICLES/EQUIPMENT AVAILABLE FOR THIS CONTRACT:

- * 8. IN THE SPACES FOLLOWING, PROVIDE INFORMATION REGARDING CONTRACTS COMPLETED BY YOUR FIRM SIMILAR IN NATURE TO THE PROJECT BEING BID. A MINIMUM OF FOUR (4) CONTRACTS SHALL BE LISTED. PUBLICLY BID CONTRACTS ARE PREFERRED, BUT NOT MANDATORY.

PROJECT NAME: _____
OWNER: _____
CITY/STATE: _____
DOLLAR AMOUNT: \$ _____ DATE COMPLETED: _____

PUBLICLY BID? ☐ YES ☐ NO
TYPE OF WORK?: _____
CONTACT PERSON: _____ TELEPHONE #: (____)_____
CONTACT PERSON'S RELATION TO PROJECT?: _____
(i.e., contract manager, purchasing agent, etc.)

PROJECT NAME: _____
OWNER: _____
CITY/STATE: _____
DOLLAR AMOUNT: \$ _____ DATE COMPLETED: _____
PUBLCY BID? ☐ YES ☐ NO
TYPE OF WORK?: _____
CONTACT PERSON: _____ TELEPHONE #: (____)_____
CONTACT PERSON'S RELATION TO PROJECT?: _____
(i.e., contract manager, purchasing agent, etc.)

PROJECT NAME: _____
OWNER: _____
CITY/STATE: _____
DOLLAR AMOUNT: \$ _____ DATE COMPLETED: _____
PUBLCY BID? ☐ YES ☐ NO
TYPE OF WORK?: _____
CONTACT PERSON: _____ TELEPHONE #: (____)_____
CONTACT PERSON'S RELATION TO PROJECT?: _____
(i.e., contract manager, purchasing agent, etc.)

PROJECT NAME: _____
OWNER: _____
CITY/STATE: _____
DOLLAR AMOUNT: \$ _____ DATE COMPLETED: _____
PUBLCY BID? ☐ YES ☐ NO
TYPE OF WORK?: _____
CONTACT PERSON: _____ TELEPHONE #: (____)_____
CONTACT PERSON'S RELATION TO PROJECT?: _____
(i.e., contract manager, purchasing agent, etc.)

9. The undersigned certifies that the information contained herein is complete and accurate and hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the City of Newton in verification of the recitals comprising this statement of Bidder's qualifications and experience.

DATE: _____ BIDDER: _____

SIGNATURE: _____

PRINTED NAME: _____ TITLE: _____

END OF SECTION

CONTRACT FORMS

The awarded bidder will be required to complete and submit the following documents in order to execute a contract pursuant to this bid.

The forms are provided for informational purposes only.

None of the following forms are required at the time of bid submittal.

CITY-CONTRACTOR AGREEMENT

CONTRACT NO. C- _____

THIS AGREEMENT made this ____ day of _____ in the year Two Thousand and Ten by and between the CITY OF NEWTON, a municipal corporation organized and existing under the laws of the Commonwealth of Massachusetts, hereinafter referred to as the CITY, acting through its Chief Procurement Officer, but without personal liability to him, and

hereinafter referred to as the CONTRACTOR.

The parties hereto for the consideration hereinafter set forth agree as follows:

ARTICLE 1. STATEMENT OF WORK. The Contractor shall furnish all labor, materials, and equipment and perform all work required in strict accordance with the Contract Documents for the following project:

QUINOBEQUIN PUMP STATION REPAIRS

Base Bid

Alternate #1

ARTICLE 2. TIME OF COMPLETION. The Contractor shall commence work under this Contract on the date specified in the written notice of the City to proceed and shall fully complete all work hereunder within the time specified in the Summary of Work and Specific Work Requirements of the Project Manual. Time is of the essence with regard to this contract. Failure to complete within the time specified shall be subject to the assessment of liquidated damages in accordance with the provisions contained in the Project Manual.

ARTICLE 3. THE CONTRACT PRICE. The City shall pay the Contractor for the full and satisfactory performance of the Contract a sum not to exceed:

ARTICLE 4. CONTRACT DOCUMENTS. The Contract Documents consist of the following documents which are either attached to this Agreement or are incorporated herein by reference:

- a. This CITY-CONTRACTOR Agreement;
- b. The City's Invitation For Bid #11-06 issued by the Purchasing Department;
- c. The Project Manual for PUMP STATION REPAIRS including the Instructions to Bidders; General Conditions; Special Conditions; MWBE/AA Requirements, Wage Rate Requirements and Wage Rate Schedule(s) including any updated prevailing wage rate schedules if applicable; The Supplementary Special Conditions; General Requirements and Project Specifications; and Drawings, if included or referenced therein;
- d. Addenda Number(s)____ ;
- e. The Bid Response of the CONTRACTOR submitted for this Project and accompanying documents and certifications;
- f. Certificate(s) of Insurance and surety bond(s) submitted by the CONTRACTOR in connection with this Project;
- g. Duly authorized and executed Amendments, Change Orders or Work Orders issued by the CITY after execution of this CITY-CONTRACTOR Agreement.

This CITY-CONTRACTOR Agreement, together with the other documents enumerated in this Article, constitute the entire Agreement between the CITY and the CONTRACTOR.

ARTICLE 5. ALTERNATES. The following Alternates have been accepted and their costs are included in the Contract Price stated in Article 3 of this Agreement:

Alternates: _____

ARTICLE 6. APPLICABLE STATUTES. All applicable federal, state and local laws and regulations are incorporated herein by reference and the Contractor agrees to comply with same.

IN WITNESS WHEREOF, the parties have caused this instrument to be executed under seal the day and year first above written.

CONTRACTOR

CITY OF NEWTON

By _____

Title _____

Date _____

Affix Corporate Seal Here

City funds in the amount of \$ _____
are available in account number
27A401Y3-586010

I further certify that the Mayor is
authorized to execute contracts and
approve change orders

By _____

Comptroller of Accounts

Date _____

By _____

Interim Chief Procurement Officer

Date _____

By _____

Commissioner of Public Works

Date _____

Approved as to Legal Form and
Character

By _____

Associate City Solicitor

Date _____

CONTRACT AND BONDS APPROVED

By _____

Setti D. Warren, Mayor

Date _____

CERTIFICATE OF AUTHORITY - CORPORATE

1. I hereby certify that I am the Clerk/Secretary of _____
(insert full name of Corporation)
2. corporation, and that _____
(insert the name of officer who signed the **contract and bonds.**)
3. is the duly elected _____
(insert the title of the officer in line 2)
4. of said corporation, and that on _____
(insert a date that is ***ON OR BEFORE*** the date the officer signed the **contract and bonds.**)

at a duly authorized meeting of the Board of Directors of said corporation, at which all the directors were present or waived notice, it was voted that

5. _____ the _____
(insert **name** from line 2) (insert **title** from line 3)

of this corporation be and hereby is authorized to execute contracts and bonds in the name and on behalf of said corporation, and affix its Corporate Seal thereto, and such execution of any contract of obligation in this corporation's name and on its behalf, with or without the Corporate Seal, shall be valid and binding upon this corporation; and that the above vote has not been amended or rescinded and remains in full force and effect as of the date set forth below.

6. ATTEST: _____ *AFFIX CORPORATE
SEAL HERE*
(Signature of **Clerk or Secretary**)*
7. Name: _____
(Please print or type name in line 6)*
8. Date: _____
(insert a date that is ***ON OR AFTER*** the date the officer signed the **contract and bonds.**)

* The name and signature inserted in lines 6 & 7 must be that of the Clerk or Secretary of the corporation.

ATTESTATION

Pursuant to MG c. 62C, § 49A, the undersigned acting on behalf of the Contractor, certifies under the penalties of perjury that, to the best of the undersign's knowledge and belief, the Contractor is in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.*

**Signature of Individual
or Corporate Contractor (Mandatory)

*** Contractor's Social Security Number
(Voluntary) or Federal Identification Number

By: _____
Corporate Officer
(Mandatory, if applicable)

Date: _____

* The provision in the Attestation relating to child support applies only when the Contractor is an individual.

** Approval of a contract or other agreement will not be granted unless the applicant signs this certification clause.

*** Your social security number will be furnished to the Massachusetts Department of Revenue to determine whether you have met tax filing or tax payment obligations. Providers who fail to correct their non-filing or delinquency will not have a contract or other agreement issued, renewed, or extended. This request is made under the authority of GL c. 62C, § 49A.

CITY OF NEWTON, MASSACHUSETTS

PAYMENT BOND

Know All Men By These Presents:

That we, _____, as PRINCIPAL, and _____, as SURETY, are held and firmly bound unto the City of Newton as Obligee, in the sum of _____ dollars (\$_____) to be paid to the Obligee, for which payments well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the said PRINCIPAL has made a contract with the Obligee, bearing the date of _____, 2010, for the construction of _____ in Newton, Massachusetts.
(Project Title)

Now, the conditions of this obligation are such that if the PRINCIPAL and all Sub-contractors under said contract shall pay for all labor performed or furnished and for all materials used or employed in said contract and in any and all duly authorized modifications, alterations, extensions of time, changes or additions to said contract that may hereafter be made, notice to the SURETY of such modifications, alterations, extensions of time, changes or additions being hereby waived, the foregoing to include any other purposes or items set out in, and to be subject to, provisions of M.G.L. c. 30, sec. 39A, and M.G.L. c. 149 sec. 29, as amended, then this obligation shall become null and void; otherwise it shall remain in full force, virtue and effect.

In Witness Whereof, the PRINCIPAL and SURETY have hereto set their hands and seals this _____ day of _____, 20____.

PRINCIPAL

SURETY

BY _____
(SEAL)

BY _____
(ATTORNEY-IN-FACT) (SEAL)

(Title)

ATTEST: _____

ATTEST: _____

CITY OF NEWTON

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

1.0 DEFINITIONS

1.1 THE CONTRACT DOCUMENTS

The term "Contract Documents" sometimes also referred to as the "Contract", means the contract entered into between the City of Newton (hereinafter "City") and the Contractor. It includes the Invitation for Bid, General Bid Form, Contract Form, these General Conditions of the Contract, Supplements and Amendments to the General Conditions (if any), Contract Specifications, Drawings, all addenda issued prior to execution of the contract, the Bid Bond, the Labor and Material Payment Bond, or other assurances of completion, the applicable wage rate determinations, and other documents listed in the Agreement and modifications issued after execution of the contract.

1.2 THE WORK

The term "Work", sometimes also referred to as the "Project", means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligation.

1.3 OWNER

The term "Owner" is the City of Newton.

1.4 CONTRACT OFFICER

The term "Contract Officer" means the person appointed by the Owner to administer the terms of the Contract between the Owner and the Contractor, who is also empowered to take certain actions under this Agreement.

1.5 CONTRACTOR

1.5.1 The Contractor, sometimes referred to as the General Contractor, is the person or entity identified as such throughout the Contract Documents as if singular in number. The term Contractor means the Contractor or its authorized representative.

1.5.2 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work under the Contract.

1.6 SUBSTANTIAL COMPLETION

The term "Substantial Completion" means the value of the work remaining to be performed by the Contractor is, in the estimate of the awarding authority, less than one percent (1%) of the original contract price.

2.0 CONTRACT ADMINISTRATION

2.1 PRE-CONSTRUCTION CONFERENCE

2.1.1 Prior to commencement of the Work, the Contractor shall meet in conference with representatives of the Owner regarding the Owner's requirements under the Contract for administration of the quality assurance program, safety program, labor provisions, the schedule of work, and other Contract procedures.

2.1.2 The Contractor shall begin work upon receipt of a written Notice to Proceed from the Contract Officer or designee. The Contractor shall not begin work prior to receiving such notice.

2.2 CONTRACT PERIOD

The Contractor shall complete all work required under this contract within the timeframe specified elsewhere in this document, or within the time schedule established in the notice to proceed issued by the Contracting Officer.

2.3 REJECTION OF DEFECTIVE MATERIALS AND WORK

The Owner's inspection of the Work shall not relieve the Contractor of any of its responsibilities to fulfill the Contract obligations, and defective work shall be corrected without cost to the Owner. Unsuitable work may be rejected by the Owner, notwithstanding that such work and materials have been previously overlooked or misjudged by the Owner and accepted for payment. If the Work or any part thereof shall be found defective at any time before the final acceptance of the whole Work, the Contractor shall forthwith correct such defect in a manner satisfactory to the Owner, and if any material brought upon the site for use in the Work, or selected for the same, shall be rejected by the Owner as unsuitable or not in conformity with the Contract requirements, the Contractor shall forthwith remove such materials from the vicinity of the Work.

2.4 CHANGES

2.4.1 All changes in the work including any increase, decrease, or other equitable adjustment in the Contract price or in the time for performing the Contract, shall be authorized in writing by the Owner and/or Contract Officer prior to commencement.

2.5 PAYMENTS

2.5.1 CONTRACT PRICE

The Contract Price is stated in the Contract Form, and including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

2.6 APPLICATIONS FOR PAYMENT

2.6.1 Once each month, on a date established by the Owner at the beginning of the Work, the Contractor shall deliver to the Owner an itemized Application for Payment, supported by such data substantiating the Contractor's right to payment as the Owner may require, and reflecting a minimum of 5% retainage until the final acceptance and payment by the Owner.

2.6.2 The Owner shall make payment to the Contractor within 30 days of receipt of said application, less any applicable retainage.

2.6.3 The Owner may make changes in any application for payment submitted by the Contractor for:

- i. Retention based on the value of its claims against the Contractor,
- ii. Retention of 5% of the approved amount of the Application for Payment.

2.7 FINAL PAYMENT

The acceptance by the Contractor of the last payment due under this Contract or the execution of the Final Certificate of Completion, shall operate as a release to the Owner from all claims and liability related to this Contract.

2.8 GUARANTY AND WARRANTY

2.8.1 WARRANTY

The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

2.8.2 GENERAL GUARANTY

If at any time during the period of one (1) year from the date of Substantial Completion of the Work to be performed under this Contract, any part of the Work shall, in the reasonable determination of the Owner, require replacing or repairing due to the fact that it is broken, defective, or otherwise does not conform to the Contract Documents, the Owner will notify the Contractor to make the required repairs or replacement. If the Contractor shall neglect to commence such repairs or replacement to the satisfaction of the Owner within ten (10) days from the date of giving or mailing such notice, then the Owner may employ other persons to make the same. The Contractor agrees, upon demand, to pay to the Owner all amounts which the Owner expends for such repairs or replacements. During this one year guarantee period any corrective work shall be performed in accordance with the applicable terms of this Contract. For items of work completed after use and occupancy has been taken, the one year guarantee shall commence at the time the Owner accepts such items. This one year guarantee shall not limit any express guaranty or warranty provided elsewhere in the Contract.

2.9 INSURANCE REQUIREMENTS

2.9.1 The Contractor shall provide insurance coverage as listed below. This insurance shall be provided at the Contractor's expense and shall be in full force and effect during the full term of this Contract.

WORKER'S COMPENSATION

Worker's Compensation: Per M.G.L. c.. 149, s. 34 and c.. 152 as amended.

COMMERCIAL GENERAL LIABILITY

Personal Injury	\$500,000 each occurrence \$1,000,000 aggregate
Property Damage	\$500,000 each occurrence \$1,000,000 aggregate

VEHICLE LIABILITY

Personal Injury	\$500,000 each person \$1,000,000 aggregate
Property Damage	\$300,000

2.9.2 OWNER AS CO-INSURED

The Owner shall be named as additional insureds on the Contractor's Liability Policies.

2.9.3 CERTIFICATES OF INSURANCE, POLICIES

- i. The Contractor shall not commence the work until proof of compliance with this Section 2.9 has been furnished to the Owner by submitting one copy of a properly endorsed insurance certificate issued by a company authorized to write insurance in the Commonwealth. This certificate shall indicate that the contractual liability coverage is in force.
- ii. The Contractor shall file the original and one certified copy of all policies with the Owner within fifteen (15) days after contract award. If the Owner is damaged by the Contractor's failure to maintain such insurance and to so notify the Owner, then the Contractor shall be responsible for all reasonable costs attributable thereto.

2.9.4 CANCELLATION

Cancellation of any insurance required by this contract, whether by the insurer or the insured, shall not be valid unless written notice thereof is given by the party proposing cancellation to the other party and Owner at least thirty days prior to the effective date thereof, which shall be expressed in said notice.

2.10 INDEMNIFICATION

The Contractor shall take all responsibility for the Work and take all precautions for preventing injuries to persons and property in or about the Work; shall bear all losses resulting to or on account of the amount or character of the Work. The Contractor shall pay or cause payment to be made for all labor performed or furnished and for all materials used or employed in carrying out this Contract. The Contractor shall assume the defense of, and indemnify and save harmless the Owner, and the Owner's officers and agents from all claims relating to labor performed or furnished and materials used or employed for the Work; to inventions, patents and patent rights used in and in doing the Work unless such patent infringement is due to a product or process specified by the Owner; to injuries to any person or corporation received or sustained by or from the Contractor and any employees, and subcontractors and employees, in doing the work, or in consequence of any improper materials, implements or labor used or employed therein; and to any act, omission or neglect of the Contractor and any employees therein.

2.11 BONDS

The Contractor shall provide the Owner with a performance and with a payment or labor and materials bond in the form provided by the Owner, executed by a surety company licensed by the Commonwealth of Massachusetts' Division of Insurance. Such bond shall be in an amount equal to at least one half of the Contract price unless otherwise stated in the Contract Documents. All bonds shall be accompanied by a current power of attorney.

2.12 TERMINATION

2.12.1 TERMINATION FOR CAUSE

- i. The Owner may terminate this contract for cause if it determines that any of the following circumstances have occurred:
 - a. The Contractor is adjudged bankrupt or has made a general assignment for the benefit of its creditors.
 - b. A receiver has been appointed of the Contractor's property.
 - c. All or a part of the Work has been abandoned.
 - d. The Contractor has sublet or assigned all or any portion of the Work, the Contract, or claims thereunder, without the prior written consent of the Owner, except as provided in the Contract.
 - e. The Owner has determined that the rate of progress required on the project is not being met.
 - f. The Contractor has substantially violated any provisions of this Contract.
- ii. The Owner may complete the Work, or any part thereof, and charge its expense of so completing the Work or part thereof, to the Contractor.
- iii. The Owner may take possession of and use any materials, machinery, implements and tools found upon the site of said Work. The Owner shall not be liable for any depreciation, loss or damage to said materials, machinery, implements or tools during said use and the Contractor shall be solely responsible for their removal from the Project site after the Owner has no further use for them.

2.12.2 TERMINATION - NO FAULT

- i. In the event that this Contract is terminated by the Owner, prior to the completion of construction and termination is not based on a reason listed in Paragraph 2.12.1, the Contractor shall be compensated for its costs incurred on the Project, including reasonable costs of de-mobilization, covering the period of time between the last approved application for payment and the date of termination.
- ii. Payment by the Owner pursuant to Section 2.7 shall be considered to fully compensate the Contractor for all claims and expenses and those of any consultants, subcontractors, and suppliers, directly or indirectly attributable to the termination, including any claims for lost profits.

2.13 PERMITS, FEES, AND NOTICES

- 2.13.1 The Contractor shall secure and the Owner shall pay for the building permit, if required. The Contractor shall coordinate all efforts required to obtain this permit. All other permits and governmental fees, licenses, and inspections necessary for proper execution and completion of the Work shall be secured and paid for by the Contractor.
- 2.13.2 The Contractor shall comply with and give notices required by laws, ordinances rules, regulations, and lawful orders of public authorities bearing on performance of the Work.
- 2.13.3 If the Contractor performs Work that it knows or reasonably should know is contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the Owner, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs.

2.14 SAFETY REQUIREMENTS

- 2.14.1 The Contractor shall comply with all Federal, State, and local safety laws and regulations applicable to the Work performed under this Contract.

2.15 TEMPORARY HEATING

The Contractor shall provide and pay for temporary heating, covering, and enclosures necessary to properly protect all work materials against damage by dampness and cold, to dry out the Work, and to facilitate the completion of the Work. Any permanent heating equipment used shall be turned over to the City in the condition and at the time required by the specifications.

2.16 AVAILABILITY AND USE OF UTILITY SERVICES

- 2.16.1 The City shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the Contract. Unless otherwise provided in the Contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the City or, where the utility is produced by the City, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.
- 2.16.2 The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the Work by the City, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

2.17 DISPUTES

- 2.17.1 "Claim," as used in this section, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the Contract, unlike a claim relating to the Contract, is a claim that can be resolved under a Contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this section, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- 2.17.2 All disputes arising under or relating to this Contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this section.
- 2.17.3 All claims by the Contractor shall be made in writing and submitted to the Contract Officer for a written decision. A claim by the City against the Contractor shall be subject to a written decision by the Contract Officer.
- 2.17.4 The Contract Officer shall, within thirty (30) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.

2.17.5 The Contract Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in the City, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within thirty (30) days after receipt of the Contract Officer's decision.

2.17.6 The Contractor shall proceed diligently with performance of this Contract and/or any authorized change thereof, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the Contract and/or any authorized change thereof, and comply with any decision of the Contract Officer.

2.18 LIQUIDATED DAMAGES

2.18.1 If the Contractor fails to complete the Work within the time specified in the contract, or any extension thereof, the Contractor shall pay to the City as liquidated damages, the sum of \$50.00 for each day of delay. If different completion dates are specified in the Contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed. To the extent that the Contractor's delay or nonperformance is excused under another section in this Contract, liquidated damages shall not be due the City. The Contractor remains liable for damages caused other than by delay.

2.18.2 If the City terminates the Contractor's right to proceed pursuant to section 2.12.1, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the Work together with any increased costs to the City in completing the Work.

2.18.3 If the City does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the Work is completed or accepted.

3.0 SALES TAX EXEMPTION AND OTHER TAXES

3.0.1 To the extent that materials and supplies are used or incorporated in the performance of this Contract, the Contractor is considered an exempt purchaser under the Massachusetts Sales Act, Chapter 14 of the Acts of 1966.

3.0.2 The Contractor shall be responsible for paying all other taxes and tariffs of any sort, related to the Work.

3.1 PROHIBITION AGAINST LIENS

The Contractor is prohibited from placing a lien on the City's property. This prohibition shall apply to all subcontractors at any tier and all materials suppliers.

3.2 ORDER OF PRECEDENCE

In the event of a conflict between these General Conditions and the Specifications, the General Conditions shall prevail. In the event of a conflict between the Contract and any applicable state or local law or regulation, the state or local law or regulation shall prevail; provided that such state or local law or regulation does not conflict with, or is less restrictive than applicable federal law, regulation, or Executive Order. In the event of such a conflict, applicable federal law, regulation, and Executive Order shall prevail.

3.3 EXAMINATION AND RETENTION OF CONTRACTOR'S RECORDS

The City of Newton shall, until three (3) years after final payment under this Contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this Contract for the purpose of making audit, examination, excerpts, and/or transcriptions.

END OF SECTION

CITY OF NEWTON

MINORITY/ WOMEN BUSINESS ENTERPRISE PLAN

DECEMBER 1, 1999

STATEMENT OF POLICY:

Whereas it is the policy of the government of the United States of America, the Commonwealth of Massachusetts and the City of Newton that no person shall be discriminated against in any manner whatsoever on the grounds of race, religion, color, sex, handicap or national origin; and

Whereas, it is the policy of the government of the United States of America that no person shall, on the grounds of race, color, sex or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program of activity funded entirely or in part by the City, the State or Federal government; and

Whereas, it is the policy of the government of the United States of America to encourage that Minority/Women Business Enterprises shall have the maximum practicable opportunity to participate in Federal and State assisted projects; and all City funded contracts; and

Whereas, it is the policy of the City of Newton to encourage that minority/women business enterprises shall have the maximum practicable opportunity to participate in all City funded contracts; and

Whereas, the City of Newton, as a recipient of Federal and State funds subscribes to the above policies and will fully comply With Federal, State and local laws and directives governing non-discrimination, equal opportunity and affirmative action in all municipal activities; and

Whereas, to further enunciate the equal opportunity policy of the City of Newton's Minority/Women Business Program, the following responsibilities are specified

This MINORITY/ WOMEN Business Enterprise Plan sets forth the administrative standards for the further implementation of the City of Newton's policy of the utilization of minority contractors and subcontractors.

The City of Newton strongly affirms that it will not discriminate in any contractual procedures against any persons because of race, color, religion, age, disability, sex or national origin. This policy shall be administered with a positive supportive attitude.

It is the responsibility of the City of Newton to take affirmative steps to implement this policy to insure equality of opportunity in conducting the Program including notifying those persons and businesses doing business with the City, that contracts for goods, services and construction, shall be made Without reference or regard to race, color, sex, age, handicap, religion or national origin.

Setti D. Warren Mayor

CITY OF NEWTON
MINORITY/ WOMEN BUSINESS ENTERPRISE PLAN

DECEMBER 1, 1999

I. DEFINITIONS:

A. Minority Person- the term includes a person who is of Black Hispanic, Asian, American Indian or Cape Verdean origin.

B. Minority Business Enterprise (MBE) -- the term shall mean a business a) that is certified by SOMWBA; or b) 1 provides evidence satisfactory to the City's Affirmative Action Officer that it is a business owned or controlled by one or more of the following:

- an individual who is a minority person,
- a partnership or joint venture controlled by minority persons in which at least 51 % of the ownership interest is held by minority persons or,
- a corporation or other entity controlled by minority persons and in which at least 51 % of the stock is owned by one or more minority persons.

C. Contract Compliance Officer - the Chief Procurement Officer or his/her designee responsible for the implementation of Newton's Minority/Women Enterprise Plan ("MWBE Plan") and activities.

D. MCAD - Massachusetts Commission Against Discrimination.

E. SOMWBA -- State Office of Minority/Women Business Assistance,

F. City - The City of Newton.

G. Women Business Enterprise (WBE) - the term shall mean a business a) that is certified by SOMWBA; or b) provides evidence satisfactory to the City's Affirmative Action Officer that it is a business owned or controlled by one or more of the following:

- an individual who is a woman.
- a partnership or joint venture controlled by women in which at least 51% of the ownership interest is held by women, or
- a corporation or other entity controlled by women and in which at least 51% of the stock is owned by one or more women.

H. MWBE – Minority or Women Business Enterprise

II. GOALS:

Newton's Minority/Women Enterprise Plan ("MWBE Plan") shall be guided by the goals presented below to promote minority/women opportunities within the City.

These goals comprise the framework for those activities to be implemented as part of the MWBE Plan:

To take affirmative action in expanding opportunities for minority and women owned firms in obtaining contracts within the City of Newton.

To assure that all contractors, regardless of race color, religion, creed, national origin, sex, age, ancestry or handicap, shall have equal opportunity to City contracting activities.

To award, of the total annual City contract dollars expended, 10 percent to MBE and 5 percent to WBE for construction; for goods and services, 5 percent WBE and 5 percent MBE.

III. SOLICITATION ACTIVITIES:

To notify MWBEs of upcoming contracts for construction, professional services and supplies, funded in whole or in part with Federal, State, and City funds, the following activities will be undertaken. In addition on a regular basis, the City of Newton will distribute to its listing of MWBEs and SOMWBA, a summary of upcoming contract opportunities which are subject to the City's MWBE Plan.

A. Construction Contracts

All construction contracts with an estimated value over \$50,000 will be formally advertised within local, regional, minority and special interest publications at least 14 days prior to the bid opening date.

For all such construction contracts a "Notice of Solicitation" of a project going out to bid will be distributed to appropriate SOMWBA or City certified firms at least 14 days prior to the bid opening date.

B. Contracts for Professional Services

The City of Newton will send notification of its advertised Request for Proposals to appropriate! SOMWBA or City certified firms Responding MWBE firms will be considered for contract award within the bounds of generally accepted management practice or with the applicable procurement law relating to securing the lowest cost and best services available.

C. Procurement of Supplies

The City of Newton will (where feasible) utilize MWBEs for the procurement of supplies in accordance with City purchasing procedures. These efforts will be documented and reported to MCAD, and the Mayor's office on a quarterly basis.

IV. CONSTRUCTION ACTIVITIES:

A. Goals

The City of Newton bid documents and contracts with an estimated value over \$50,000 will contain the City's goal of 10% for MBE and 5% for WBE utilization for subcontracts,

B. Pre-Bid Conference

To affirmatively further the opportunities available to prospective bidders, the City will hold a pre-bid conference 5-7 days prior to the bid opening date for all City construction contracts and subcontracts with an estimated value over \$50,000.

The pre-bid conference will provide an opportunity for contractors to: review and clarify the technical requirements of the projects, review the City's MWBE Plan; and review Equal Opportunity requirements. The City will advertise this conference and extend invitations to interested contractors as part of the notice of solicitation.

C. Bid Submission

All bids for City of Newton contracts with -an estimated value over \$50,000 shall include a certification of intent to be completed by the bidder swing his/her intent to comply with the City's MWBE Plan. Failure to include this certification shall be an informality which may be waived if such certification is received prior to the award of the contract.

D. Contract Execution

Upon notification of award of the contract, the bidder shall provide a written plan detailing how it will comply with the MWBE Plan

E. Monitoring

Throughout the duration of the contract, the City of Newton through its Contract Compliance Officer, will monitor the progress and activities of all contractors and subcontractors as they attempt to comply with the MWBE Plan.

F. Enforcement

In the case of clear neglect to make a good faith effort to comply with this MWBE Plan, the City of Newton reserves the right to designate contractor, after a hearing, as ineligible for future City bid awards.

V. CONTRACT COMPLIANCE OFFICER/DUTIES AND RESPONSIBILITIES:

The Contract Compliance Officer, as liaison between minority firms and the City of Newton will have the overall responsibility for the implementation of Newton's MWBE Plan. This responsibility includes the development, management, dissemination of information; the provision of technical assistance to minority firms including clarification of procedures to be implemented; maintenance of relevant documentation; completion of reporting requirements; and performance of monitoring and evaluation activities; and maintenance and updating of listings of minority/women business.

The Contract Compliance Officer has oversight of all City procurements for construction, professional services and supplies and shall coordinate the implementation of the MWBE Plan with other City departments.

THE CITY OF NEWTON, MASSACHUSETTS
SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY
ANTI-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM

- I. The requirements hereinafter set forth apply to construction contracts which involve an expenditure by the City of \$50,000 or more.
- II. For purposes of this contract "minority" refers to Asian Americans, Black, Hispanics American Indians and Cape Verdeans. The City refers to the- City of Newton
- III. During the performance of this contract the Contractor and all of (his) Subcontractors (hereinafter collectively referred to as the Contractor) , for himself, his assignees, and successors ,in interest, agree as follows:
 1. In connection with the performance of work under this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age or sex. The aforesaid provision shall include, but not be limited to, the following: layoff; termination; rates of pay or other forms of compensation; conditions or privileges of employment; and the selection of apprenticeship. The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the City setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (MGL Chapter 151B) . (See Attachment A)
 2. In connection with the performance of work under this contract, the Contractor shall undertake in good faith, affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age or sex, and to eliminate and remedy any effects of such discrimination -in the past. Such affirmative action shall. entail positive and aggressive measures to ensure equal employment: opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, 'Layoff or termination, rate of compensation, and in-service or apprenticeship training programs. This affirmative action shall include all action required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, age or sex. A 'purpose of- this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this and future City public construction projects
- IV.
 1. As part of this obligation of remedial action under the foregoing section, the contractor shall maintain on this project a not less than 5 percent ratio of minority employee man hours to total man hours in each job category, including, but not limited to, bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers, and those "classes of work" enumerated in Section 44C of Chapter 149 of the Massachusetts General Laws.
 2. In the hiring of minority journeymen, apprentices, trainees and advanced trainees, the Contractor shall rely on referrals, from the Contractor's affirmative action program approved by the City, traditional referral methods utilized by the construction industry, and referrals from agencies, not more than three in number at any one time, designated by the Liaison Committee or the City.
- V.
 1. At the discretion of the City, there may be established for the life of this contract a body to be known as the Liaison Committee, The Liaison Committee shall be composed of the Compliance Officer and one representative each from the Departments administering this project, hereinafter called the administering Departments, and such other representatives as may be designated by the City.
 2. The Contractor (or, his/her agent, if any, designated by him/her as the onsite equal employment opportunity officer) shall recognize the Liaison Committee as the affirmative action body, and shall establish a continuing working relationship with the Liaison Committee on all matters related to minority recruitment, referral, employment and training.
 3. The Contractor shall prepare manning tables on a quarterly basis.* These shall be broken down into projections, by week, for workers required in each trade. Copies shall be furnished one week in advance of the initiation of work and quarterly thereafter to the City and to the Liaison Committee.
 4. Records of employment referral orders, prepared by the Contractor, shall be made available to the City and to the Liaison Committee on request.

5. The contractor shall prepare weekly reports in a form approved by the City of hours worked in each trade by each employee, identified as minority or non-minority. Copies of these reports shall be provided at the end of each week to the City and to the Liaison Committee.

* If job is less than three months, prepare for length of job.

- VI. If the Contractor shall use any sub contractor on any work performed under this contract, he/she shall take affirmative action to negotiate with qualified minority subcontractors. This affirmative action shall cover both pre-bid and post-bid periods. It shall include notification to the State Office of: Minority *Business Assistance* or As designee, while bids are in preparation, of all products, work or services for which the Contractor intends to negotiate bids.
- VII. In the employment of journeyman, apprentices, trainees, and advanced trainees, the Contractor shall give preference to citizens of the Commonwealth who have served in the armed forces of the United States in time of war and have been honorably discharged therefrom or released from active duty therein, and who are qualified to perform the work to which the employment relates, and, secondly to citizens of the Commonwealth generally, and, if such cannot be obtained in sufficient numbers, then to citizens of the United States
- VIII. A designee of the City and a designee of the Liaison Committee shall each have the right of access to the Construction site,
- IX. **Compliance with Requirements**
The Contractor shall comply with the provisions of Chapter 151B of the Massachusetts General Laws, which are herein incorporated by reference and made as amended by Executive Order 227, and of Chapter 151B as amended, of the Massachusetts General Laws, both of which are herein incorporated by reference and made a part of this contract.
- X. **Non-Discrimination**
The Contractor, in the performance of all work after award, and prior to completion of the contract work, will not discriminate on the grounds of race, color, religious creed, national origin, age or sex in employment practices, in the selection or retention of sub-contractors, or in the procurement of materials and rentals of equipment.
- XI. **Solicitations for sub-Contracts and for the Procurement of Materials and Equipment**
In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or equipment, each potential subcontractor or supplier shall be notified in writing by the Contractor of the Contractor's obligations under his contract relative to non-discrimination and affirmative action.
- XII. **Bidders Certification Requirement**
1. The following certification statement will be inserted in the bid document just above the bidder's signature.

"The bidder hereby certifies he shall comply with the minority manpower ratio and specific action steps contained in the City of Newton, Massachusetts Supplemental Equal Employment-- Opportunity Anti-Discrimination and Affirmative Action Program. The Contractor receiving the award of the contract shall be required to obtain from each of its subcontractors and submit to the contracting or, administering agency prior to the performance of any work under said contract a certification by said subcontractor, regardless of tier, that it will comply with the minority manpower ratio and specific affirmative action steps contained in the City of Newton Massachusetts Supplemental Equal Employment Opportunity Anti -Discrimination and Affirmative Action Program.
- XIII. **Contractor's Certification**
A Contractor's certification form must be signed by all successful low bidders prior to award by the City. A Contractor shall not be eligible for award of a contract unless the contractor has executed and submitted the Contractor's Certification, which shall be deemed a part of the resulting contract. (See Attachment B)
- XIV. **Subcontractor's Certification**

Prior to the award of any subcontract, regardless of tier, the prospective subcontractor must execute and submit to the Prime Contractor a subcontractor's certification setting forth the subcontractor's compliance with this program, which shall be deemed a part of the resulting subcontract. (See Attachment C)

XV. Compliance - Information, Reports and Sanctions

1. The Contractor will provide all information and reports Required by the administering department or, the City on instruction issued by either of them and will permit access to its facilities and any books, records, accounts and other sources of information which may be determined by the City to affect the employment of personnel. This provision shall apply only to information pertinent to the City's supplementary affirmative action contract requirements. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the administering department or the City as appropriate and shall set forth what efforts he/she has made to obtain the information.
2. Whenever the administering department, the City, or the Liaison Committee believes the General Contractor or any Subcontractor may not-, be operating in compliance with the terms of this Section, the City directly, or through its designated agent, shall conduct: an appropriate investigation, and may confer with the parties, to determine if such Contractor is operating in compliance with the terms of this Section. If the City or its agent finds the General Contractor or any Subcontractor not in compliance, it shall make a preliminary report on non-compliance, and notify such Contractor in writing of such steps as will in the judgement of the City or its agent bring such Contractor into compliance. In the event, that such Contractor fails or refuses to fully perform such steps, the City shall make a final report of non-compliance, and recommend to the administering department the imposition of one or more of the sanctions listed below. If, however, the City believes the General Contractor or any Subcontractor has taken or is taking every possible measure to achieve compliance, it shall not make a final report of non-compliance. within fourteen days at the receipt of the recommendations of the City, the administering department shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement:
 - (a) The recovery by the administering department from the General Contractor of 1/100 of 11 of the contract award price or \$1000 whichever sum is greater, in the nature of liquidated damages or if a Subcontractor is in non-compliance, the recovery by the administering department from the General Contractor, to be assessed by the General Contractor as a back charge against the Subcontractor, of 1/10 of 1% of the sub-contract price, or \$400 whichever sum is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply
 - (b) The suspension of any payment of part thereof due under the contract until such time as the General Contractor or any Subcontractor is able to demonstrate his compliance with the terms of the contract;
 - (c) The termination, or cancellation, of the contract, in whole or in part, unless the General Contractor or any Subcontractor is able to demonstrate within a specified time his/her compliance with the terms of the City's affirmative action construction contract requirements; OR,
 - (d) The denial to the General Contractor or any Subcontractor of the right to participate in any future contracts awarded by the administering department for a period of up to three years.
3. If at any time after the imposition of one or more of the above sanctions (unless the contract. has been terminated), a Contractor is able to demonstrate that he/she is in compliance with this section, he/she may request the City to suspend the sanctions conditionally pending a final determination by the City as to whether the Contractor is in compliance. Upon final determination of the City, the administrating department, based upon the recommendation of the City, shall either lift the sanctions or continue them.
4. Sanctions enumerated under Section XV shall not: be imposed by the City except after the General Contractor or Subcontractor have had an opportunity for full and fair hearing with City. The non-compliance investigation shall be initiated without prior notice to the contractor. Any sanctions to be imposed shall be, __set forth fully and completely in writing, and may then be appealed to t-he City in writing by the Contractor.

.XIV. Severability

The provisions of this section are severable, and if any of these provisions shall be held unconstitutional by any court of competent jurisdiction, the decision of such court. shall not, affect or impair any of the remaining provisions.

FAIR EMPLOYMENT LAW

The Fair Employment Law declares that it is illegal to discriminate on the basis of race, color, religious creed, national origin, sex, sexual orientation, age, ancestry or disability

IT IS UNLAWFUL:

- to print or circulate any advertisement or use any application form which directly or indirectly specifies any limitation on the basis of race, color, religious creed, national origin, sex, sexual orientation, age, ancestry or disability.
- to discharge or refuse to hire any individual on file basis of their race, color, religious creed, national origin, sex, sexual orientation, age, ancestry, or disability.
- to discriminate against any individual in matters relating to compensation, terms, conditions, or privileges of employment because of their race, color, religious creed, national origin, sex, sexual orientation, age, ancestry or disability.
- to require a woman to leave her job at some arbitrary stage in her pregnancy or to refuse to let her return to work until a specified time set by the employer.
- to grant a female employee at least eight weeks leave for purposes of childbirth or to treat her absence differently than any other absence due to disability.
- to require an employee to remain at work during any day or part thereof that s/he observes as a religious holiday provided that the employee gives a ten-day notice and the absence does not cause undue hardship to the employer.
- to discharge or refuse to hire any person because of their failure to furnish information concerning admission to a center for the treatment of mentally ill persons.
- to discriminate against a job applicant for failure to furnish information, written or oral, concerning:- A) an arrest, detention or disposition regarding a violation of law in which no conviction resulted; B) a first conviction for any of the following misdemeanors: driving under the influence, simple assault, speeding, minor traffic violations, disturbance of the peace; or C) conviction for a misdemeanor where the date of the conviction or end of period of incarceration, if any, occurred more than five years prior to the employment application, and the applicant has not been convicted of any offense within the five years immediately before the date of application.

RETALIATION

It is illegal to retaliate against any person because s/he has opposed any practices forbidden under this Chapter or because s/he has filed a complaint, testified, or assisted in any proceeding before the Commission. It is also illegal to aid, abet, incite, compel or coerce the doings of any of the acts forbidden under this Chapter or to attempt to do so.

SEXUAL HARASSMENT

151B:1,18 The term "sexual harassment" shall mean sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when (a) submission to or rejection of such advances, requests or conduct is made either explicitly or implicitly a term or condition of employment, or as a basis for employment decisions: (h) such advances,, requests or conduct have the purpose or effect of unreasonably interfering with an individual's work performance by creating an intimidating, hostile, humiliating or sexually offensive work environment.

COMPLAINTS

All complaints must be filed in writing. Information on the filing of complaints can be obtained by contacting the MASSACHUSETTS COMMISSION AGAINST DISCRIMINATION at the following locations:

Boston office:
One Ashburton Place
Room 601
Boston, MA 02108
(617) 727-3990

Springfield office:
436 Dwight Street
Suite 315
Springfield, MA 01103
(413) 739-2145

THE MASSACHUSETTS COMMISSION AGAINST DISCRIMINATION

Attachment B

CITY OF NEWTON

Contractors Certification

A Contractor will not be eligible for award of a contract, unless such contractor has submitted the following certification, which is deemed a part of the resulting contract.

CONTRACTOR'S CERTIFICATION

Contractor's Name Certifies that:

it tends to use the following listed construction trades in the work under the contract

_____ and

2. will comply with the minority manpower ration and specific affirmative action steps contained herein; and
3. will obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontract under this contract the subcontractor certification required by these bid conditions

(Signature of authorized representative of Contractor)

Any contract for the provision of goods or services to the City of Newton or any of its departments is subject to the ordinance creating the Human Rights Commission, as it may be amended from Time to Time. Any complaints within the purview shall be forwarded immediately to the contracting agency, and a copy shall be sent to the Human Rights Commission; any complaints received by the contracting agency shall be forwarded to the contractor, and a copy shall be sent to the Human Rights Commission.

Attachment C

CITY OF NEWTON

Subcontractors Certification

Prior to the award of any subcontract, regardless of tier, the prospective subcontractor must execute and submit to the Prime Contractor the following certification, which will be deemed a part of the resulting subcontractor.

SUBCONTRACTOR`S CERTIFICATION

Contractor's Name Certifies that:

it tends to use the following listed construction trades in the work under the contract

_____ and

will comply with the minority manpower ration and specific affirmative action steps contained herein; and

will obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontract under this contract the subcontractor certification required by these bid conditions

Pursuant to M.G.L. Ch. 62C, Sec. 49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

(Signature of authorized representative of Contractor)

In order to ensure that the said subcontractor's certification becomes part of all subcontracts under the prime contract, no subcontract shall be executed until an authorizee representative of the Administrative Agency administering this project has determined in writing, that the said certification has been incorporated in such subcontract, regardless of tier, Any subcontract executed without such written approval shall be void.

Any contract for the provision of goods or services to the City of Newton or any of its departments is subject to the ordinance creating the Human Rights Commission, as it may be amended from Time to Time. Any complaints within the purview shall be forwarded immediately to the contracting agency, and a copy shall be sent to the Human Rights Commission; any complaints received by the contracting agency shall be forwarded to the contractor, and a copy shall be sent to the Human Rights Commission.

END OF SECTION

CITY OF NEWTON

WAGE RATE REQUIREMENTS

1. GENERAL

- A.** This section summarizes the requirements for the payment of wages to laborers and mechanics employed under the Contract.
- B.** Other duties and requirements of law which may not be specified in this section apply and are inherently part of the Contract.

2. WAGE RATES

- A.** The rate per hour to be paid to mechanics, apprentices, teamsters, chauffeurs, and laborers employed on the Work shall not be less than the rate of wages in the attached "Minimum Wage Rates" as determined by the Commissioner of Labor and Industries. This schedule shall continue to be the minimum rate of wages for said employees during the life of this Contract.
- B.** Keep posted on the site a legible copy of said schedule. Keep on file the wage rates and classifications of labor employed on this Work in order that they may be available for inspection by the Owner, Administrator, or the Architect.
- C.** Apprentices employed pursuant to this determination of wage rates must be registered and approved by the State Apprenticeship Council wherever rates for journeymen or apprentices are not listed.
- D.** Pay reserve police officers employed on the Work the prevailing rate of wages paid to regular police officers as required by M.G.L. c 149, Sec. 34B, as amended. Such police officers shall be covered by Workmen's Compensation Insurance and Employers Liability Insurance by the Contractor.
- E.** The Contractor and all subcontractors shall, on a weekly basis throughout the term of the contract, provide to the City of Newton certified payroll affidavits verifying compliance with M.G.L. c.149, Sec. 27, 27A and 27B.
- F.** The Contractor and all subcontractors shall provide a Statement of Compliance within 15 days of the completion of its portion of the work. This statement shall be submitted to the Owner on the form found elsewhere in this section.
- G.** The Contractor shall maintain accurate and complete records, including payroll records, during the Contract term and for three years thereafter. Filings made by the Contractor pursuant to Clauses 47, 48 and 49 of the General Conditions shall be deemed to constitute compliance with State filing requirements under the Massachusetts Prevailing Wage Law.



THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification	Effective Dates and Total Rates								
Construction									
(2 AXLE) DRIVER - EQUIPMENT	06/01/2010	\$44,930	12/01/2010	\$45,530	06/01/2011	\$46,280			
	12/01/2011	\$46,940	06/01/2012	\$47,590	12/01/2012	\$48,620			
(3 AXLE) DRIVER - EQUIPMENT	06/01/2010	\$45,000	12/01/2010	\$45,600	06/01/2011	\$46,350			
	12/01/2011	\$47,010	06/01/2012	\$47,660	12/01/2012	\$48,690			
(4 & 5 AXLE) DRIVER - EQUIPMENT	06/01/2010	\$45,120	12/01/2010	\$45,720	06/01/2011	\$46,470			
	12/01/2011	\$47,130	06/01/2012	\$47,780	12/01/2012	\$48,810			
ADSSUBMERSIBLE PILOT	08/01/2009	\$101,110	08/01/2010	\$104,640	08/01/2011	\$108,760			
AIR TRACK OPERATOR	06/01/2010	\$48,850	12/01/2010	\$50,100	06/01/2011	\$51,100			
	12/01/2011	\$52,350							
ASBESTOS REMOVER - PIPE / MECH. EQUIPT.	12/01/2009	\$40,250							
ASPHALT RAKER	06/01/2010	\$48,350	12/01/2010	\$49,600	06/01/2011	\$50,600			
	12/01/2011	\$51,850							
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE	06/01/2010	\$59,730	12/01/2010	\$60,980					
BACKHOE/FRONT-END LOADER	06/01/2010	\$59,730	12/01/2010	\$60,980					
BARCO-TYPE/JUMPING TAMPER	06/01/2010	\$48,350	12/01/2010	\$49,600	06/01/2011	\$50,600			
	12/01/2011	\$51,850							
BLOCK PAVER, RAMMER / CURB SETTER	06/01/2010	\$48,850	12/01/2010	\$50,100	06/01/2011	\$51,100			
	12/01/2011	\$52,350							
BOILER MAKER	01/01/2010	\$55,850							
APPRENTICE: BOILERMAKER - Local 29									
Ratio	Step	1	2	3	4	5	6	7	8
1:5	%	65.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00
Apprentice wages shall be no less than the following:									
Step 1542.66/2542.66/3444.34/4443.05/4831.45/5020/7512.08/6533.97									
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2010	\$68,010	08/01/2010	\$69,910	02/01/2011	\$70,900			
	08/01/2011	\$73,000	02/01/2012	\$73,990					
APPRENTICE: BRICK/PLASTER/CEMENT MASON - Local 3 Newton									
Ratio	Step	1	2	3	4	5			
1:5	%	50.00	60.00	70.00	80.00	90.00			
Apprentice wages shall be no less than the following:									
Step 1543.71/2550.17/3534.43/4509/5005.43.33									
BULLDOZER/GRADER/SCRAPER	06/01/2010	\$59,380	12/01/2010	\$60,630					
CAISSON & UNDERPINNING BOTTOM MAN	06/01/2010	\$49,250	12/01/2010	\$50,500	06/01/2011	\$51,500			
	12/01/2011	\$52,750							
CAISSON & UNDERPINNING LABORER	06/01/2010	\$48,100	12/01/2010	\$49,350	06/01/2011	\$50,350			
	12/01/2011	\$51,600							
CAISSON & UNDERPINNING TOP MAN	06/01/2010	\$48,100	12/01/2010	\$49,350	06/01/2011	\$50,350			
	12/01/2011	\$51,600							

This wage schedule must be posted at the worksite in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.

Issue Date: 07/20/2010

Wage Request Number: 20100720-017

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DEVAL L. PATRICK
Governor
TIMOTHY P. MURRAY
Lieutenant Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Division of Labor
HEATHER E. LOWE
Acting Commissioner of
Division of Occupational Safety

Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification	Effective Dates and Total Rates										
CARBIDE CORE DRILL OPERATOR	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600					
	12/01/2011	\$51.850									
CARPENTER	03/01/2010	\$54.500	09/01/2010	\$55.380	03/01/2011	\$56.250					
	09/01/2011	\$57.380	03/01/2012	\$58.500							
APPRENTICE: CARPENTER - Zone 2 Eastern MA											
Ratio	Step	1	2	3	4	5	6	7	8		
1:5	%	50.00	60.00	70.00	75.00	80.00	80.00	90.00	90.00		
Apprentice wages shall be no less than the following:											
Step 1523.15/2528.32/\$40.274 \$41.84/55.43.01/64.3.01/754.9.74/8549.74											
CEMENT MASONRY/PLASTERING	02/01/2010	\$66.200	08/01/2010	\$67.670	02/01/2011	\$68.440					
	08/01/2011	\$70.060	02/01/2012	\$70.830							
CHAINSAW OPERATOR	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600					
	12/01/2011	\$51.850									
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	06/01/2010	\$60.730	12/01/2010	\$61.980							
COMPRESSOR OPERATOR	06/01/2010	\$48.760	12/01/2010	\$49.690							
DELEADER (BRIDGE)	01/01/2010	\$63.410									
DEMO: ADZEMAN	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350					
	12/01/2011	\$51.600									
DEMO: BACKHOE/LOADER/HAMMER OPERATOR	06/01/2010	\$49.100	12/01/2010	\$50.350	06/01/2011	\$51.350					
	12/01/2011	\$52.600									
DEMO: BURNERS	06/01/2010	\$48.850	12/01/2010	\$50.100	06/01/2011	\$51.100					
	12/01/2011	\$52.350									
DEMO: CONCRETE CUTTERSAWYER	06/01/2010	\$49.100	12/01/2010	\$50.350	06/01/2011	\$51.350					
	12/01/2011	\$52.600									
DEMO: JACKHAMMER OPERATOR	06/01/2010	\$48.850	12/01/2010	\$50.100	06/01/2011	\$51.100					
	12/01/2011	\$52.350									
DEMO: WRECKING LABORER	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350					
	12/01/2011	\$51.600									
DIRECTIONAL DRILL MACHINE OPERATOR	06/01/2010	\$39.380	12/01/2010	\$60.630							
DIVER	08/01/2009	\$75.090	08/01/2010	\$77.440	08/01/2011	\$80.190					
DIVER TENDER	08/01/2009	\$60.220	08/01/2010	\$62.570	08/01/2011	\$65.320					
DIVER TENDER (EFFLUENT)	08/01/2009	\$78.810	08/01/2010	\$82.330	08/01/2011	\$86.460					
DIVER/SLURRY (EFFLUENT)	08/01/2009	\$101.110	08/01/2010	\$104.640	08/01/2011	\$108.760					
ELECTRICIAN	03/01/2010	\$65.790	09/01/2010	\$67.030	03/01/2011	\$68.270					
APPRENTICE: ELECTRICIAN - Local 103											
Ratio	Step	1	2	3	4	5	6	7	8	9	10
2:3***	%	40.00	40.00	45.00	45.00	50.00	55.00	60.00	65.00	70.00	75.00
Apprentice wages shall be no less than the following Steps:											
App Prior 1A.03; 30.63/40.45/50.65/65.70/75.80											
1534.88/2534.88/3542.31/4542.31/5544.45/6544.45/7548.72/8550.85/9552.99/10.555.12											
ELEVATOR CONSTRUCTOR	01/01/2010	\$65.190	01/01/2011	\$66.690	01/01/2012	\$68.190					

This wage schedule must be posted at the worksite in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.

Issue Date: 07/20/2010

Wage Request Number: 20100720-017

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THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDS TEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Director of Labor
HEATHER E. LOWE
Acting Commissioner of
Division of Occupational Safety

Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification		Effective Dates and Total Rates									
APPRENTICE: ELEVATOR CONSTRUCTOR - Local 4											
Ratio	Step	1	2	3	4	5					
1:1	%	50.00	55.00	60.00	70.00	80.00					
Apprentice rates shall be no less than the following:						Steps 1-2 are 6 mos.; Steps 3-5 are 1 year					
Step 1 \$44,472 \$44,896 \$51,754 \$54,170 \$58,999											
ELEVATOR CONSTRUCTOR HELPER						01/01/2010	\$51,330	01/01/2011	\$52,830	01/01/2012	\$54,330
FENCE & GUARD RAIL ERECTOR						06/01/2010	\$48,350	12/01/2010	\$49,600	06/01/2011	\$50,600
						12/01/2011	\$51,850				
FIELD ENG. - INST. PERSON (BLDG, SITE, HVY CONST)						05/01/2010	\$56,950	11/01/2010	\$58,190	05/01/2011	\$59,430
FIELD ENG. - ROD PERSON (BLDG, SITE, HVY CONST)						05/01/2010	\$41,520	11/01/2010	\$42,250	05/01/2011	\$42,980
FIELD ENG. - CHIEF OF PARTY (BLDG, SITE, HVY CONST)						05/01/2010	\$58,320	11/01/2010	\$59,570	05/01/2011	\$60,820
FIRE ALARM INSTALLER						03/01/2010	\$65,790	09/01/2010	\$67,030	03/01/2011	\$68,270
FIRE ALARM REPAIR / MAINTENANCE						03/01/2010	\$53,800	09/01/2010	\$54,730	03/01/2011	\$55,660
FIREMAN (ASST. ENGINEER)						06/01/2010	\$53,760	12/01/2010	\$54,840		
FLAGGER & SIGNALER						06/01/2010	\$37,800	12/01/2010	\$37,800	06/01/2011	\$38,800
						12/01/2011	\$38,800				
FLOORCOVERER						03/01/2010	\$59,630	09/01/2010	\$60,380	03/01/2011	\$61,130
						09/01/2011	\$62,380	03/01/2012	\$63,630		
APPRENTICE: FLOORCOVERER - Local 2148 Zone 1											
Ratio	Step	1	2	3	4	5	6	7	8		
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00		
Apprentice rates shall be no less than the following:						Steps are 750 hrs.					
Step 1 \$27,331 \$29,136 \$39,934 \$41,710 \$43,324 \$44,710 \$46,510 \$48,652 \$47											
FORK LIFT/CHERRY PICKER						06/01/2010	\$59,730	12/01/2010	\$60,980		
GENERATOR/LIGHTING PLANT/HEATERS						06/01/2010	\$48,760	12/01/2010	\$49,690		
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)						01/01/2010	\$52,910				
APPRENTICE: GLAZIER - Local 35 Zone 2											
Ratio	Step	1	2	3	4	5	6	7	8		
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00		
Apprentice wages shall be no less than the following:						Steps are 750 hrs.					
Step 1 \$23,842 \$28,438 \$30,314 \$32,180 \$41,244 \$43,137 \$44,501 \$48,688 \$47.4											
HOISTING ENGINEER/CRANES/GRADALLS						06/01/2010	\$59,730	12/01/2010	\$60,980		
APPRENTICE: HOIST/PORT. ENG. - Local 4											
Ratio	Step	1	2	3	4	5	6	7	8		
1:4	%	55.00	60.00	65.00	70.00	75.00	80.00	85.00	90.00		
Apprentice wages shall be no less than the following:											
Step 1 \$30,402 \$44,428 \$44,334 \$48,250 \$50,144 \$52,077 \$53,996 \$58,015 \$50											

This wage schedule must be posted at the worksite in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.

Issue Date: 07/20/2010

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DEVAL L. FAIRLEK
Governor
TIMOTHY P. MURRAY
Lieutenant Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDFSTEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Director of Labor
HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification	Effective Dates and Total Rates					
HVAC (DUCTWORK)	02/01/2010	\$63.470	08/01/2010	\$64.720	02/01/2011	\$65.970
	08/01/2011	\$67.220	02/01/2012	\$68.470	08/01/2012	\$69.720
	02/01/2013	\$70.970				
HVAC (ELECTRICAL CONTROLS)	03/01/2010	\$65.790	09/01/2010	\$67.030	03/01/2011	\$68.270
HVAC (TESTING AND BALANCING - AIR)	02/01/2010	\$63.470	08/01/2010	\$64.720	02/01/2011	\$65.970
	08/01/2011	\$67.220	02/01/2012	\$68.470	08/01/2012	\$69.720
	02/01/2013	\$70.970				
HVAC (TESTING AND BALANCING - WATER)	03/01/2010	\$68.730				
HVAC MECHANIC	03/01/2010	\$68.730				
HYDRAULIC DRILLS	06/01/2010	\$48.850	12/01/2010	\$50.100	06/01/2011	\$51.100
	12/01/2011	\$52.350				
INSULATOR (PIPES & TANKS)	09/01/2009	\$59.260	09/01/2010	\$61.660		
APPRENTICE: ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston						
Ratio	Step	1	2	3	4	
1:4	%	30.00	40.00	70.00	80.00	
Apprentice wages shall be no less than the following:				Steps are 1 year		
Step 1 \$34.14/2 \$40.76/3 \$45.39/4 \$50.01						
IRONWORKER/WELDER	03/16/2010	\$60.940				
APPRENTICE: IRONWORKER - Local 7 Boston						
Ratio	Step	1	2	3	4	5
**	%	40.00	70.00	75.00	80.00	85.00
Apprentice wages shall be no less than the following:				** Structural 1-4; Ornamental 1-4		
Step 1 \$44.82/2 \$50.35/3 \$52.12/4 \$53.88/5 \$55.45/6 \$57.41						
JACKHAMMER & PAVING BREAKER OPERATOR	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600
	12/01/2011	\$51.850				
LABORER	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350
	12/01/2011	\$51.600				
APPRENTICE: LABORER - Zone 1						
Ratio	Step	1	2	3	4	
1:5	%	40.00	70.00	80.00	90.00	
Apprentice wages shall be no less than the following:						
Step 1 \$34.18/2 \$39.16/3 \$42.14/4 \$45.12						
LABORER: CARPENTER TENDER	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350
	12/01/2011	\$51.600				
LABORER: CEMENT FINISHER TENDER	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350
	12/01/2011	\$51.600				
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350
	12/01/2011	\$51.600				
LABORER: MASON TENDER	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600
	12/01/2011	\$51.850				

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617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.

Issue Date: 07/20/2010

Wage Request Number: 20100720-017

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THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY



Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification	Effective Dates and Total Rates								
LABORER: MULTI-TRADE TENDER	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350			
	12/01/2011	\$51.600							
LABORER: TREE REMOVER	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350			
	12/01/2011	\$51.600							
This classification applies to the wholesale removal of standing trees including all associated trimming of branches and limbs, and applies to the removal of branches at locations not on or around utility lines.									
LASER BEAM OPERATOR	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600			
	12/01/2011	\$51.850							
MARBLE & TILE FINISHERS	02/01/2010	\$56.950	08/01/2010	\$58.470	02/01/2011	\$59.270			
	08/01/2011	\$60.950	02/01/2012	\$61.740					
APPRENTICE: MARBLE & TILE FINISHER - Local 3 Marble & Tile									
Ratio	Step	1	2	3	4	5			
1:3	%	50.00	60.00	70.00	80.00	90.00			
Apprentice wages shall be no less than the following:									
Step 1 \$39.64/2543 110 \$44.374 \$50.03/0533.49 Steps are 800 hrs.									
MARBLE MASONS, TILELAYERS & TERRAZZO MECH	02/01/2010	\$68.050	08/01/2010	\$69.950	02/01/2011	\$70.940			
	08/01/2011	\$73.040	02/01/2012	\$74.030					
APPRENTICE: MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile									
Ratio	Step	1	2	3	4	5			
1:3	%	50.00	60.00	70.00	80.00	90.00			
Apprentice wages shall be no less than the following:									
Step 1 \$43.73/2530 190 \$54.664 \$59.12/0543.59									
MECH. SWEEPER OPERATOR (NON CONSTRUCTION)	07/01/2010	\$29.590	07/01/2011	\$30.290					
MECH. SWEEPER OPERATOR (ON CONST. SITES)	06/01/2010	\$39.380	12/01/2010	\$60.630					
MECHANICS MAINTENANCE	06/01/2010	\$39.380	12/01/2010	\$60.630					
MILLWRIGHT (Zone 1)	04/01/2010	\$55.850							
APPRENTICE: MILLWRIGHT - Local 1121 Zone 1									
Ratio	Step	1	2	3	4	5	6	7	8
1:3	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00
Apprentice wages shall be no less than the following:									
Step 1 \$34.63/2534 310 \$39.444 \$41.12/0544 244 \$45.94/754 7.65/0549.32									
MORTAR MIXER	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600			
	12/01/2011	\$51.850							
OILER (OTHER THAN TRUCK CRANES, GRADALLS)	06/01/2010	\$42.430	12/01/2010	\$43.170					
OILER (TRUCK CRANES, GRADALLS)	06/01/2010	\$45.500	12/01/2010	\$46.330					
OTHER POWER DRIVEN EQUIPMENT - CLASS II	06/01/2010	\$39.380	12/01/2010	\$60.630					
PAINTER (BRIDGES/TANKS)	01/01/2010	\$63.410							

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Issue Date: 07/20/2010

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DEVAL L. PAILEY
Governor
TIMOTHY P. MURRAY
Lieutenant Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Director of Labor
HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification

Effective Dates and Total Rates

APPRENTICE: PAINTER Local35 - BRIDGES/TANKS										
Ratio	Step	1	2	3	4	5	6	7	8	
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00	
Apprentice wages shall be no less than the following:						Steps are 750 hrs.				
Step 1529.31/2534.43/3483.48/4270.54/889/451.31/7533.73/6838.37										
PAINTER (SPRAY OR SANDBLAST, NEW) *						01/01/2010	\$54.310			
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.										
APPRENTICE: PAINTER Local35 Zone 2 - Spray/Sandblast - New										
Ratio	Step	1	2	3	4	5	6	7	8	
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00	
Apprentice wages shall be no less than the following:										
Step 1524.74/2531.83/3333.53/4224.05/4414/454.58/734.73/6830.92										
PAINTER (SPRAY OR SANDBLAST, REPAINT)						01/01/2010	\$52.370			
APPRENTICE: PAINTER Local35 Zone 2 - Spray/Sandblast - Repaint										
Ratio	Step	1	2	3	4	5	6	7	8	
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00	
Apprentice wages shall be no less than the following:										
Step 1523.79/2530.78/3323.84/33.98/542.78/544.38/734.59/6849.17										
PAINTER (TRAFFIC MARKINGS)						06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011 \$50.330
						12/01/2011	\$51.600			
PAINTER / TAPER (BRUSH, NEW) *						01/01/2010	\$52.910			
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.										
APPRENTICE: PAINTER - Local35 Zone 2 - BRUSH NEW										
Ratio	Step	1	2	3	4	5	6	7	8	
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00	
Apprentice wages shall be no less than the following:						Steps are 750 hrs.				
Step 1523.84/2528.43/33031.8/4218.05/4414/454.58/734.51/6848.74										
PAINTER / TAPER (BRUSH, REPAINT)						01/01/2010	\$50.970			
APPRENTICE: PAINTER Local35 Zone 2 - BRUSH REPAINT										
Ratio	Step	1	2	3	4	5	6	7	8	
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00	
Apprentice wages shall be no less than the following:						Steps are 750 hrs.				
Step 1522.89/2527.43/32914.8/30.92/539.90/441.68/734.34/6847.01										
PANEL & PICKUP TRUCKS DRIVER						06/01/2010	\$44.760	12/01/2010	\$45.360	06/01/2011 \$46.110
						12/01/2011	\$46.770	06/01/2012	\$47.420	12/01/2012 \$48.430
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)						08/01/2009	\$60.220	08/01/2010	\$62.570	08/01/2011 \$65.330
PILE DRIVER						08/01/2009	\$60.220	08/01/2010	\$62.570	08/01/2011 \$65.330

This wage schedule must be posted at the worksite in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.

Issue Date: 07/02/2010

Wage Request Number: 20100720-017

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DEVAL L. PATRICK
Governor
TIMOTHY P. MURRAY
Lieutenant Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Division of Labor
HEATHER E. LOWE
Acting Commissioner of
Division of Occupational Safety

Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification	Effective Dates and Total Rates										
APPRENTICE: PIPE DRIVER - Local 54 Zone 1											
Ratio	Step	1	2	3	4	5	6	7	8		
1:3	%	40.00	45.00	70.00	75.00	80.00	85.00	90.00	95.00		
Apprentice wages shall be no less than the following:											
Step 1\$41.33/2\$47.21/3\$49.07/4\$50.95/5\$52.79/6\$54.64/7\$56.50/8\$58.36											
PIPEFITTER & STEAMFITTER						03/01/2010	\$68.730				
APPRENTICE: PIPEFITTER - Local 537											
Ratio	Step	1	2	3	4	5					
**	%	40.00	45.00	60.00	70.00	80.00					
Apprentice Rates-Step 1\$33.94/2\$43.38/3\$50.29/4\$54.90/5\$59.51						**1:3;3;1;3;1;10 thereafter /Step and 1 yr.					
Ref:rig/C Mechanic **1:1;1;2;2;4;3;4;4;8;5;10;6;12;7;14;8;17;9;20;10;23(Max)											
PIPELAYER						06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600
						12/01/2011	\$51.850				
PLUMBERS & GASFITTERS						03/01/2010	\$67.500				
APPRENTICE: PLUMBER - Local 112											
Ratio	Step	1	2	3	4	5					
**	%	35.00	40.00	55.00	65.00	75.00					
Apprentice wages shall be no less than the following:						**1:2;2;4;3;10;4;4;5;10/Step and 1 yr.					
Step 1\$30.03/2\$32.90/3\$41.57/4\$47.32/5\$50.20/5\$53.07/5\$55.95											
PNEUMATIC CONTROLS (TEMP.)						03/01/2010	\$68.730				
PNEUMATIC DRILL/TOOL OPERATOR						06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600
						12/01/2011	\$51.850				
POWDERMAN & BLASTER						06/01/2010	\$49.100	12/01/2010	\$50.350	06/01/2011	\$51.350
						12/01/2011	\$52.600				
POWER SHOVEL/DERRICK/TRENCHING MACHINE						06/01/2010	\$39.730	12/01/2010	\$60.980		
PUMP OPERATOR (CONCRETE)						06/01/2010	\$39.730	12/01/2010	\$60.980		
PUMP OPERATOR (DEWATERING, OTHER)						06/01/2010	\$48.760	12/01/2010	\$49.690		
READY-MIX CONCRETE DRIVER						05/01/2010	\$41.080	05/01/2011	\$41.690		
RECLAIMERS						06/01/2010	\$39.380	12/01/2010	\$60.630		
RESIDENTIAL WOOD FRAME CARPENTER **						04/01/2009	\$35.620				
** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement.											
As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.											
APPRENTICE: CARPENTER (Residential Wood Frame) - Zone 2											
Ratio	Step	1	2	3	4	5	6	7	8		
1:5	%	40.00	40.00	45.00	70.00	75.00	80.00	85.00	90.00		
Apprentice wages shall be no less than the following:											
Step 1\$20.13/2\$24.04/3\$27.23/4\$28.43/5\$29.43/6\$30.83/7\$32.03/8\$33.22											

This wage schedule must be posted at the worksite in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.

Issue Date: 07/20/2010

Wage Request Number: 20100720-017

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DEVAL L. PATRICK
Governor
TIMOTHY P. MURRAY
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THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Director of Labor
HEATHER E. LOWE
Acting Commissioner of
Division of Occupational Safety

Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification	Effective Dates and Total Rates										
RIDE-ON MOTORIZED BUGGY OPERATOR	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600					
	12/01/2011	\$51.850									
ROLLER/SPREADER/MULCHING MACHINE	06/01/2010	\$39.380	12/01/2010	\$60.630							
ROOFER (Inc. Roofer Waterproofing & Roofer Dampproofg)	02/01/2009	\$53.860									
APPRENTICE: ROOFER - Local 33											
Ratio	Step	1	2	3	4	5					
**	%	50.00	60.00	65.00	75.00	85.00					
**1-5, 2-4-10, the 1-10; Reroofing: 1-4, then 1-1											
Step 1 is 2000 hrs; Steps 2-5 are 1000 hrs.											
Apprentice rates no less than: Step 1 \$34.48/2540.84/\$342.384 \$44.02/\$49.30											
SHEETMETAL WORKER	02/01/2010	\$63.470	08/01/2010	\$64.720	02/01/2011	\$65.970					
	08/01/2011	\$67.220	02/01/2012	\$68.470	08/01/2012	\$69.720					
	02/01/2013	\$70.970									
APPRENTICE: SHEET METAL WORKER - Local 17-A											
Ratio	Step	1	2	3	4	5	6	7			
1-4	%	40.00	45.00	50.00	60.00	65.00	75.00	85.00			
Apprentice wages shall be no less than the following:											
Step 1 \$13.75/2524.51/\$33.344 \$37.380/\$44.40/\$53.63											
Steps 1-3 are 1 year; Steps 4-7 are 6 mos.											
SIGN ERECTOR	06/01/2009	\$37.780									
APPRENTICE: SIGN ERECTOR - Local 33 Zone 2											
Ratio	Step	1	2	3	4	5	6	7	8	9	
1-1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00	90.00	
Steps are 6 mos.											
SLATE / TILE / PRECAST CONCRETE ROOFER	02/01/2009	\$54.110									
SPECIALIZED EARTH MOVING EQUIP < 35 TONS	06/01/2010	\$45.220	12/01/2010	\$45.820	06/01/2011	\$46.570					
	12/01/2011	\$47.230	06/01/2012	\$47.880	12/01/2012	\$48.910					
SPECIALIZED EARTH MOVING EQUIP > 35 TONS	06/01/2010	\$45.510	12/01/2010	\$46.110	06/01/2011	\$46.860					
	12/01/2011	\$47.520	06/01/2012	\$48.170	12/01/2012	\$49.200					
SPRINKLER FITTER	04/01/2010	\$69.550									
APPRENTICE: SPRINKLER FITTER - Local 330											
Ratio	Step	1	2	3	4	5	6	7	8	9	10
1-1	%	40.00	45.00	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00
Apprentice wages shall be no less than the following steps:											
1533.04/2537.82/3540.40/4543.38/5544.14/6548.24/7551.72/8554.50/9557.28/10 \$40.04											
STEAM BOILER OPERATOR	06/01/2010	\$39.380	12/01/2010	\$60.630							
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN	06/01/2010	\$39.380	12/01/2010	\$60.630							
TELECOMMUNICATION TECHNICIAN	03/01/2010	\$53.800	09/01/2010	\$54.730	03/01/2011	\$55.660					

This wage schedule must be posted at the worksite in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.

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THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification		Effective Dates and Total Rates							
APPRENTICE: TELECOMMUNICATION TECHNICIAN - Local103									
Ratio	Step	1	2	3	4	5	6	7	8
1:1	%	40.00	45.00	50.00	55.00	60.00	65.00	70.00	80.00
Apprentice wages shall be no less than the following:									
Step 1\$34,590/2\$34,190 \$37,804 \$39,390\$40,994\$42,607\$45,806\$47.40									
TERRAZZO FINISHERS						02/01/2010	\$66.950	08/01/2010	\$68.850
						08/01/2011	\$71.940	02/01/2012	\$72.930
APPRENTICE: TERRAZZO FINISHER - Local3 Marble & Tile									
Ratio	Step	1	2	3	4	5			
1:3	%	50.00	60.00	70.00	80.00	90.00			
Apprentice wages shall be no less than the following:									
Step 1\$45,168/2\$49,536 \$53,894 \$58,240\$62.40									
TEST BORING DRILLER						06/01/2010	\$49.500	12/01/2010	\$50.750
						12/01/2011	\$53.000		
TEST BORING DRILLER HELPER						06/01/2010	\$48.220	12/01/2010	\$49.470
						12/01/2011	\$51.720		
TEST BORING LABORER						06/01/2010	\$48.100	12/01/2010	\$49.350
						12/01/2011	\$51.600		
TRACTORS/PORTABLE STEAM GENERATORS						06/01/2010	\$39.380	12/01/2010	\$60.630
TRAILERS FOR EARTH MOVING EQUIPMENT						06/01/2010	\$45.800	12/01/2010	\$46.400
						12/01/2011	\$47.810	06/01/2012	\$48.460
TUNNEL WORK - COMPRESSED AIR						06/01/2010	\$60.680	12/01/2010	\$61.930
						12/01/2011	\$64.430		
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)						06/01/2010	\$62.680	12/01/2010	\$63.930
						12/01/2011	\$66.430		
TUNNEL WORK - FREE AIR						06/01/2010	\$52.750	12/01/2010	\$54.000
						12/01/2011	\$56.500		
TUNNEL WORK - FREE AIR (HAZ. WASTE)						06/01/2010	\$54.750	12/01/2010	\$56.000
						12/01/2011	\$58.500		
VAC-HAUL						06/01/2010	\$45.220	12/01/2010	\$45.820
						12/01/2011	\$47.230	06/01/2012	\$47.880
WAGON/DRILL OPERATOR						06/01/2010	\$48.350	12/01/2010	\$49.600
						12/01/2011	\$51.850		
WASTE WATER PUMP OPERATOR						06/01/2010	\$39.730	12/01/2010	\$60.980
WATER METER INSTALLER						03/01/2010	\$67.500		
Outside Electrical - East									
CABLE TECHNICIAN (Power Zone)						08/31/2009	\$32.830	08/30/2010	\$34.050
								08/29/2011	\$35.310
CABLEMAN (Underground Ducts & Cables)						08/31/2009	\$42.590	08/30/2010	\$44.320
								08/29/2011	\$46.110
DRIVER / GROUNDMAN CDL						08/31/2009	\$37.940	08/30/2010	\$39.360
								08/29/2011	\$40.830
DRIVER / GROUNDMAN - Inexperienced (<2000 Hrs)						08/31/2009	\$30.780	08/30/2010	\$31.890
								08/29/2011	\$33.030

This wage schedule must be posted at the worksite in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.

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DEVAL L. PAILEK
Governor
TIMOTHY P. MURRAY
Lieutenant Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDFSTEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Director of Labor
HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Awarding Authority: City of Newton

Contract Number: 11-06

City/Town: NEWTON

Description of Work: Remove and Replace Pump and Motor at the Quinobequin Road Pump Station

Job Location: 136 Quinobequin Road

Classification	Effective Dates and Total Rates						
EQUIPMENT OPERATOR (Class A CDL)	08/31/2009	\$46,590	08/30/2010	\$48,320	08/29/2011	\$50,110	
EQUIPMENT OPERATOR (Class B CDL)	08/31/2009	\$40,240	08/30/2010	\$41,760	08/29/2011	\$43,340	
GROUNDMAN	08/31/2009	\$30,280	08/30/2010	\$31,390	08/29/2011	\$32,530	
GROUNDMAN - Inexperienced (< 2000 Hrs.)	08/31/2009	\$25,920	08/30/2010	\$26,840	08/29/2011	\$27,790	
JOURNEYMAN LINEMAN	08/31/2009	\$55,480	08/30/2010	\$57,510	08/29/2011	\$59,620	
APPRENTICE: LINEMAN (Outside Electrical)- East Local 104							
Ratio	Step	1	2	3	4	5	6
1:2	%	60.00	65.00	70.00	75.00	80.00	85.00
Apprentice wages shall be no less than the following:							
Step 1:\$39,040/2:\$41,110/3:\$43,174/4:\$45,220/5:\$47,274/6:\$49,327/7:\$51,380							
TELEDATA CABLE SPLICER	03/01/2007	\$27,330					
TELEDATA LINEMAN/EQUIPMENT OPERATOR	03/01/2007	\$27,330					
TELEDATA WIREMAN/INSTALLER/TECHNICIAN	03/01/2007	\$27,330					
TREE TRIMMER	02/01/2009	\$19,010					
This classification applies only to the trimming of branches on and around utility lines.							
TREE TRIMMER GROUNDMAN	02/01/2009	\$17,060					
This classification applies only to the trimming of branches on and around utility lines.							

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, Section 11.

All steps are six months (1000 hours) unless otherwise specified.

- * Ratios are expressed in allowable number of apprentices to journeyman or fraction thereof.
- ** Multiple ratios are listed in the comment field.
- *** The job site ratio of 2 apprentices (APP) for every 3 journeyman (JM) is allowed as follows:
1 JM: 1 APP; 2-3 JM: 2 APP; 4-6 JM: 4 APP; 7-9 JM: 6 APP; 10-12 JM: 8 APP; 13-15 JM: 10 APP; etc.
- **** The job site ratio of 2 apprentices (APP) for every 3 journeyman (JM) is allowed as follows:
1-2 JM: 1 APP; 3-4 JM: 2 APP; 5 JM: 3 APP; 6-7 JM: 4 APP; 8 JM: 5 APP; etc.

This wage schedule must be posted at the worksite in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.

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The Massachusetts Prevailing Wage Law

M.G.L. ch. 149, §§ 26 – 27

NOTICE TO AWARDING AUTHORITIES

- 'The enclosed wage schedule applies only to the specific project listed at the top and will be updated for any public construction project lasting longer than one (1) year.
- 'You should request an updated wage schedule from the Division of Occupational Safety if you have not opened bids or selected a contractor within 90 days of the date of issuance of the enclosed wage schedule.
- 'The wage schedule shall be incorporated in any advertisement or call for bids for the project for which it has been issued.
- 'Once a contractor has been selected by the awarding authority, the wage schedule shall be made a part of the contract for that project.

NOTICE TO CONTRACTORS

- The enclosed wage schedule, and any updated schedule, must be posted in a conspicuous place at the work site during the life of the project.
- The wages listed on the enclosed wage schedule must be paid to employees on public works projects regardless of whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- The enclosed wage schedule applies to all phases of the project including the final clean-up. Contractors whose only role is to perform final clean-up must pay their employees according to this wage schedule.
- All apprentices must be registered with the Massachusetts Division of Apprentice Training in order to be paid at the reduced apprentice rates. If a worker is not registered with the Division of Apprentice Training, they must be paid the “total rate” listed on the wage schedule regardless of experience or skill level. For further information, please call (617) 727-3486 or write to the Division of Apprentice Training, 399 Washington Street, 4th Floor, Boston, MA 02108

**PUMP STATION REPAIRS
QUINOBEQUIN PUMP STATION**

SPECIAL CONDITIONS

1.0 PROJECT SITE

- A. The area of work shall be the Quinobequin Pump Station, Quinobequin Road, Newton, MA.

2.0 TIME FOR COMPLETION

- A. The work shall be commenced at the time stipulated in the Notice to Proceed to the Contractor. All work with shall be fully complete within ninety (210) calander days from the stipulated date.

3.0 PAYMENT

- A. Payment to the Contractor shall be made in accordance with the provisions of Paragraph 2.6 of the Genaral Conditions. The amount of retainage established for this contract shall be 5%.

4.0 LIQUIDATED DAMAGES

- A. As actual damages for any delay in completion are impossible to determine, the Contractor and his/her sureties shall be liable for and shall pay fifty dollars (\$50.00) as fixed, and agreed liquidated damages for each calendar day of delay beyond the completion date stated in the Notice to Proceed until the work is brought to full and accepted completion.

5.0 COMMUNICATIONS

- A. All notices, demands, requests, instructions, approvals and claims must be in writing.
- B. Any such notice shall be deemed to have been given as of the time of delivery, or of actual receipt in the case of telegrams or, in the case of mailing, when it should have been received in due course of post.
- C. For communicating purposes, the office address of the Contractor shall be that stated on the signature page of the contract; that of the City shall be as stated in the Notice to Contractors. Any subsequent change in address of either party shall be communicated to the other in writing.

6.0 PLANS AND SPECIFICATIONS

- A. The City will furnish to the Contractor, without charge, all copies of the specifications reasonably necessary in the performance of the contract work.

7.0 COORDINATION

The Contractor shall:

- A. Supply to the City the name and telephone number of a responsible person who may be contacted during off-hour emergencies on the project.
- B. Cooperate at all times with the City and the Project Manager, and ensure the cooperation of his key personnel and that of his subcontractors.
- C. Provide 24 hour minimum notice to building management to prepare for access to any site area.

8.0 CONDUCT OF THE WORK

- A. The work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient men and adequate equipment to complete all the necessary work requirements within a minimum period of time.

- B. The work shall be conducted between the hours of 8:00 a.m. and 4:30 p.m. on Monday through Friday. No work shall be done on holidays, Saturdays or Sundays other than for emergencies, or unless specifically authorized by the City.
- C. The Contractor is responsible for the security of partially completed work until the project is finally accepted by the City.

9.0 ALTERATION

- A. The Contractor shall patch, repair and/or replace all existing materials and surfaces remaining exposed after installation of new work which have been affected by alteration or removal of existing work. All patch and repair work shall match existing.

10.0 GENERAL DIRECTIONS

- A. Damage to Persons and Property

Any damage to buildings, roads, public roads, bituminous concrete areas, fences, lawn areas, trees, shrubbery, electric or telephone poles, underground utilities, etc., shall be repaired by the Contractor at his own expense. Damaged property shall be returned to its original condition prior to the damages within a reasonable time period, except all utility outages shall be repaired immediately.

- B. Protection of Persons and Property

The Contractor shall, at all times, leave an unobstructed way along the roadways and walks, and shall maintain barriers and lights for the protection of all persons and property in all locations where he has materials stored or work going on, and during the entire time such work is going on or material is stored.

- C. The Contractor shall at the end of each work day leave the fields in usable condition. There shall be no open holes/trenches or exposed irrigation heads that could pose a trip hazard or potential injury to persons using the fields.

- D. Care of Work

All work is to be carefully protected so that no injury will come to it from water, frost, accident, or any other cause and any injury which may come to any of the work shall be repaired immediately by the Contractor at his own expense and without additional cost to the City. This shall also apply to any abutting or adjoining work on premises. The Contractor shall be responsible for any damage and in the event of such damage, the Contractor shall repair the damage immediately at his own cost and without additional cost to the City.

- E. Removal of Debris

Debris of any nature shall be completely removed from the site at the end of each days work and disposed of in accordance with all Federal, State and local regulations.

- F. The Contractor is responsible for the security of all work until it is accepted by the City.

11.0 DELETED

12.0 SUBMISSION OF PAYROLLS

- A. The Contractor shall, with each monthly invoice submitted during the term of this Contract, submit to the City two (2) legible copies of his payrolls documenting the wages paid to all employees performing on site labor relating to the work of this Contract. These copies shall be prepared on forms supplied by the City.

13.0 DRAWINGS

- A. The drawings attached herein and such drawings as may be issued per addendum, shall constitute an integral part of this section and shall serve as the working drawings.

- B. Drawings shall not be scaled. Field verification is directed since actual locations, dimensions and levels are existing.
- C. All items not specifically mentioned in the specifications or noted on the drawings, but which are obviously necessary to make a complete working installation, shall be included.

14.0 MATERIALS

- A. Unless specifically so stated to the contrary the use of a manufacturer's name or style number is not restrictive, and is intended solely as an identification of the type and quality of the materials and services required. In all cases, the words "or approved equal" if not inserted are implied.
- B. An item equal to that named or described in the specifications may upon written approval of the City be furnished by the Contractor. An item shall be considered equal to the item so named or described if (1) it is at least equal in quality, durability, appearance, strength and design; (2) it will perform at least equally the function imposed by the general design for the public work being contracted for or the material being purchased; (3) it conforms substantially, even with deviations, to the detailed requirements for the item in the specifications.
- C. The name and identification of all materials other than the one specifically named shall be submitted to the City in writing for approval, prior to purchase, use or fabrication of such items. Subject to the provisions of M.G.L. Ch. 30, Sec. 39J, approval shall be at the sole discretion of the City, shall be in writing to be effective, and the decision of the City shall be final. The City may require tests of all materials so submitted to establish quality standards at the Contractor's expense.
- D. For the use of material other than the one specified, the Contractor shall assume the cost of and responsibility for satisfactorily accomplishing all changes in the work as shown. All directions, specifications and recommendations by manufacturers for the installation, handling, storing, adjustment, and operation of their equipment shall be complied with and responsibility for proper performance shall continue to rest with the Contractor.
- E. Except as otherwise provided for by the provisions of M.G.L. Ch. 30, Sec. 39J, the Contractor shall not have any right of appeal from the decision of the City condemning any materials furnished if the Contractor fails to obtain the approval for substitution in accordance with these provisions. If any substitutu is more costly, the Contracotr shall pay for such costs

15.0 WARRANTY AND INDEMNIFICATION

- A. In addition to other guarantees or warranties required under law or other sections of the specification, the Contractor warrants all materials furnished and labor performed under this Contract to be free from defects or errors in workmanship or installation for a period of one year from the date of Completion of the work, as certified by the Project Manager. The Contractor shall indemnify the Authority for the full cost of any damage to the property that may result by reason of such defects or errors and shall indemnify the Authority from and against any and all claims, demands, losses, costs, expenses, liabilities and damages, including reasonable attorney's fees and expenses, arising out of or on account of this Contract, including but not limited to claims brought against the Authority for alleged infringement of patents based upon any methods of construction or application of upon materials furnished under the Contract.

END OF SECTION

**CITY OF NEWTON
DEPARTMENT OF PUBLIC WORKS**

SPECIFIC REQUIREMENTS OF THE CONTRACT

QUINOBEQUIN PUMP STATION REPAIRS

SECTION 01270

MEASUREMENT AND PAYMENT

1. GENERAL

- A. The following sections describe the measurement and payment for the work to be done under the respective items listed in the FORM OF GENERAL BID.
- B. The lump sum price stated in the FORM OF GENERAL BID shall constitute full compensation as herein specified, for all of the work completed in accordance with the specifications. All other activities required in connection with performance of the work, including all work required under Division 1, GENERAL REQUIREMENTS, whether described in the contract documents or mandated by applicable codes, permits and laws, will not be separately paid for unless specifically provided for in the form of general bid, but will be considered to be incidental to performance of the overall project.

2. ITEM 1

The lump sum price for Item 1 shall constitute full compensation for furnishing all labor, materials, tools and equipment for constructing the project, complete, as called for in the specifications.

ITEM 2 – ALTERNATE

The lump sum price for Item 2 shall constitute full compensation for furnishing all labor, materials, tools and equipment for constructing this item, complete, as called for in the specifications.

END OF SECTION 01270

SECTION 01014

SCOPE AND SEQUENCE OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. This Section covers the scope and sequence of work for the pumping station improvements.

1.02 WORK INCLUDED:

A. SCOPE:

The Contractor shall furnish all labor, materials, equipment and incidentals required to complete the work as specified herein. The work includes but is not limited to furnishing and installing the following:

1. Remove and replace pump and motor no. 4.
2. Remove the existing starter for pump no. 4 and install a new 200-horsepower adjustable frequency drive (AFD) above the existing motor control center (MCC).

1.03 PROTECTION OF EXISTING PUMP STATION:

- A. Any work that will interfere with the operation of the existing pumping station must be approved by the Owner. One (1) week written notice shall be given to the Owner before the date approval is required.
- B. If work done by the Contractor interferes with the existing pumping station such that operation of the stations is impaired; the Contractor shall correct the problems to the satisfaction of the Owner, at no additional cost to Owner.

1.04 SEQUENCING:

- A. The following is a suggested order of construction concerning the pumping station construction. It does not purport to cover all work, which may be required to keep the existing station operational during construction.

1. Remove and replace pump and motor no. 4.
2. Remove the existing starter for pump no. 4 and install a new 200-horsepower adjustable frequency drive (AFD) above the existing MCC.
3. Start-up and testing.
4. Removal of salvageable equipment.
5. Clean-up station.

1.05 DEMOLITION:

- A. The demolition work shall include the removal of salvageable equipment as designated by the Owner.

1.06 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

- A. Submit a demolition plan to the Owner for review, describing the proposed sequence, methods, and equipment for the demolition and disposal.

B. Do not proceed with demolition until the Owner has given written comments on the demolition plan and authorization to proceed.

PART 2 - PRODUCTS: NOT APPLICABLE

PART 3 - EXECUTION

3.01 DEMOLITION:

- A. Arrange with and perform work required by utility companies and municipal departments for discontinuance or interruptions of utility services due to demolition work.
- B. The Contractor shall take precautions to protect the existing equipment and structures from damage during removal of equipment and materials.

3.02 DISPOSITION OF SALVAGEABLE EQUIPMENT:

- A. The Contractor shall remove and dispose of all salvageable equipment from the existing pumping station, as designated by the Owner.

3.03 DISPOSAL OF DEMOLITION SPOIL:

- A. The Owner has the option of retaining ownership on equipment and materials being removed. All other equipment and materials being removed, not to be retained by the Owner, shall become the property of the Contractor and shall be disposed of by the Contractor in accordance with all applicable regulations, at no additional cost to the Owner.

END OF SECTION 01014

SECTION 11310

WASTEWATER PUMPING EQUIPMENT

PART 1 - GENERAL

1.01 WORK INCLUDED:

- A. This section covers the furnishing, installation and testing of the wastewater pumps motor, drives and appurtenances for the Quinobequin Pump Station as herein specified.

1.02 RELATED WORK:

- A. Electrical Work is included in Division 16.

1.03 SYSTEM DESCRIPTION:

- A. The wastewater pumping equipment shall consist of a pump and motor to replace the existing pump and motor for the pump station listed above with parameters as specified in the pump and motor schedule (2.02), including frame, seal, coupling, and electrical system interface, and all associated equipment and accessories required to make a complete system.
- B. This specification directs special attention to certain features, but does not purport to cover all details of the design, manufacture or installation of the pumping unit. Final responsibility for supplying and installing pumping equipment which functions as specified herein rests with the Contractor and his suppliers.
- B. The Contractor shall be required to make the necessary piping modifications on the suction and discharge sides of each pump and on the existing concrete pads to allow proper installation of the new pump.

1.04 QUALITY ASSURANCE:

- A. ALL EQUIPMENT SHALL CONFORM TO THE FOLLOWING CRITERIA:

1. Equipment shall be manufacturer's standard products presently in commercial production.
2. Conform to Hydraulic Institute Standards.
3. All equipment specified under this Section shall be furnished by a single supplier and shall be products of manufacturers regularly engaged in the production of said equipment. The supplier shall have the sole responsibility for proper functioning of the complete pumping unit.
4. Any reference to a specific manufacturer or model number is for the purpose of establishing a quality or parameter for specification writing and is not to be considered proprietary. In all cases any source or device that has the quality and operating capabilities specified may be acceptable.
5. Conform to requirements for materials, installation and equipment approvals of state, local, Underwriter's Laboratories, Inc., or other applicable codes, whether or not called for on the drawings or in the specifications.
6. Workmanship shall be first class in all respects.
7. Base the use of unspecified materials on their continuous and successful employment under similar conditions, as called for in this section.
8. The electrical drive equipment specified herein (including drive controller and induction motor) shall be designed and sized by the supplier, who shall assume responsibility for the correct operation of the system. The supplier shall have successfully manufactured, installed and started-up at least 10 systems similar to this installation in the past 5 years.

B. MANUFACTURER'S QUALIFICATIONS:

1. On request from the Owner, the pump manufacturer shall demonstrate proof of financial responsibility with respect to performance and delivery date.
2. On request from the Owner, the pump manufacturer shall provide proof or evidence of facilities, equipment and skills required to produce the equipment specified herein.
3. The manufacturer shall provide the supervisory service of a factory trained Owner, who is specifically trained on the type of equipment supplied, for a period of not less than one 8-hour day to assist in installation of the pumping equipment and related appurtenances, to provide initial startup of each pump and to instruct the Owner's operating personnel in the operation and maintenance of the equipment provided. The specified time period is a minimum time requirement. The actual time required to complete the specified tasks may take longer, but shall be completed at no additional cost to the Owner.

C. FACTORY TESTS:

1. General:

Six (6) copies of certified Shop Test results for the pump, stamped and approved by a Registered Professional Owner, in the appropriate field, shall be provided to the Owner.

2. Pump Testing Requirements:

- a. The pump manufacturer shall not ship any pump until after the certified pump performance tests have been submitted to and reviewed by the Owner.
- b. Hydrostatic testing of the pump casing, suction cover and stuffing box cover shall be performed after assembly of the pump. The minimum test pressure shall be the greater of: one point five (1.50) times the shutoff head at maximum speed with full diameter impeller, or one hundred twenty-five (125) psi, whichever is greater. Certified hydrostatic test results shall be submitted to the Owner prior to pump performance testing.
- c. The pump to be furnished under this Section shall be performance tested on water at the pump manufacturer's plant, before shipment. The purpose of performance testing shall be to prove that the pump to be supplied conforms to the Specification requirements, and that the pump can properly operate throughout the entire pump envelope. Tests shall conform to the Standards of the Hydraulic Institute, except as specifically modified herein.
 1. Head
 2. Capacity
 3. Brake horsepower
 4. Efficiency
 5. Vibration
- d. After the completion of the pump performance testing, the pump shall be operated at maximum speed against a closed discharge valve for a minimum of two (2) minutes. After this test is completed, the Owner reserves the right to require that the pump suction cover be removed and an inspection made of the suction cover wear ring and the impeller wear ring. If any contact has occurred between the rings during the shutoff test operation, all pump shall be rejected.
- e. If, in the sole opinion of the Owner, any pump test indicates that the pump performance differs significantly from the Specification requirements and/or the previously submitted pump performance data, the cause of the difference shall be determined and corrected by the manufacturer. The pump shall be retested until it meets the performance requirements specified herein.

3. Motor Testing Requirements

- a. Pump motor shall be designed and manufactured according to the criteria specified in subsection 2.03 of this Section.
- b. Pump motor shall meet or exceed all applicable NEMA standards.

- c. The pump motor to be furnished under this Section shall be tested according to generally recognized "Standard Commercial Tests."
- d. The motor manufacturer shall not ship any motor until after the motor test information has been submitted to and reviewed by the Owner.

D. Field acceptance tests shall be performed as specified in PART 3 EXECUTION.

1.05 REFERENCES:

A. The latest editions of the following standards form a part of this specification:

American National Standard Institute (ANSI)

- ANSI A21.10 Standard for Gray-Iron and Ductile Iron Fittings, 3-in. through 38-in. for Water and Other Liquids.
- ANSI A21.11 Standard for Rubber-Gasket Joints for Ductile Cast-Iron and Gray-Iron Pressure Pipe and Fittings.
- ANSI A21.15 Standard for Flanged Cast-Iron and Ductile-Iron Pipe with Threaded Flanges.
- ANSI A21.51 Ductile-Iron Pipe Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids.

American Society for Testing and Materials (ASTM)

- ASTM A48 Specifications for Gray-Iron Castings.
- ASTM A53 Specifications for Pipe, Steel, Black and Hot-dipped, Zinc Coated, Welded and Seamless.
- ASTM A108 Steel Bars, Carbon, Cold Finished, Standard Quality
- ASTM D429 Rubber Property - Adhesion to Rigid Substrates
- ASTM D1785 Polyvinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and 120.

Massachusetts Electrical Code (MEC)

- 527 CMR 12.00 Massachusetts Electrical Code.

National Electric Manufacturer's Association (NEMA)

- NEMA MG1 Motors and Generators
- NEMA MG1 Motors and Generators

1.06 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Prior to shipment, the Contractor shall submit six copies of the following to the Owner:

- 1. Complete shop drawings showing dimensions, materials of construction, and all particulars as herein specified.
- 2. Certified pump curve showing the actual performance of the pump to be supplied under factory testing. The pump shall be tested with actual suction elbow to be furnished for this system as specified.
- 3. Complete Bill of Materials.
- 4. Proposed pump hydrostatic and performance testing procedures.

5. Complete test results on each motor from the routine tests as defined in the NEMA standard for a motor of its class and rating to determine that it is free from electrical and mechanical defects and to provide assurance that it meets the design specifications.
6. Pump Motor performance data for:
 - a. Guaranteed minimum efficiency at 100%, 75%, 50%, and 25% of full load.
 - b. Guaranteed minimum Power Factor at 100%, 75%, 50%, and 25% of full load.
 - c. Locked rotor and full load current.
 - d. Starting, full load, and breakdown torque.
7. Pump Bulletin
8. Pump and motor assembly drawings and motor frame size.
9. Pump and motor storage and installation instructions.
10. Installation drawings of pump, motor, coupling, base with component weights and dimensions.
11. Coupling installation instructions.
12. Coupling Bulleting and Drawings.
13. Maximum reverse runaway speed calculations.
14. Complete pump and motor nameplate information.
15. Certification of factory motor balancing.
16. Complete functional description of all system components.
17. Parts lists including the manufacturer's reference and ordering numbers.
18. Recommended spare parts list with ordering numbers.

B. Furnish six (6) copies of "Operation and Maintenance" manuals of all equipment supplied and installed. Manuals shall contain, but not be limited to, a complete bill of materials, a preventative maintenance schedule, a list of troubleshooting information, assembly drawings with components clearly identified and numbered, parts lists, wiring diagrams, pertinent technical data and factory service information, warranties and emergency telephone number(s).

C. Upon completion of installation, six sets of the results of the field and acceptance tests as specified under this section of the specification shall be submitted to the Owner.

D. Furnish equipment manufacturer's notarized certificates of conformance with the specifications stating that all materials and equipment furnished under this Section conform with all specification requirements.

E. At the discretion and expense of the Owner, an independent vibration analysis may be conducted on the new wastewater pump. The Contractor and manufacturer will be permitted to witness the test.

1.07 DELIVERY, STORAGE, AND HANDLINGS:

A. SHIPPING:

1. The wastewater pump, materials and spare parts shall be shipped complete and ready for installation except where partial disassembly is required by transportation regulations, is recommended by the manufacturer or for protection of components.

2. All anchor bolts and embedded items required for complete installation or mounting, holding down or supporting of equipment to be furnished under this section, including necessary location drawings and templates required to install the items in concrete, masonry, etc., shall be furnished and delivered to the site by the manufacturer of the equipment furnished under this section, for installation under other sections of the specifications. Delivery of these items shall be as required by the overall construction schedule.
3. Spare parts shall be packed in containers bearing labels clearly designating contents and pieces of equipment for which intended.
4. Spare parts shall be delivered to the site at the same time as the basic equipment and turned over to the Owner after completion of work.

B. STORAGE:

1. The Contractor shall receive, store, and safeguard all equipment, materials, and spare parts at the job site.
2. The pump motor shall be stored on-site and protected according to motor manufacturer's recommendations until the pump is operational and accepted by the Owner.

1.08 WARRANTY:

- A. The pump and motor manufacturer shall each individually and separately warranty that the equipment they supplied under this Section fully meets the criteria specified herein, and shall further warranty that the equipment is free from all defects in materials and workmanship.
- B. The manufacturer's warranties from defects shall contain a provision that the manufacturer shall repair or replace any defects, to the satisfaction of and at no additional cost to the Owner, for a period of twenty-four (24) months for the pump and motor, from the date of Substantial Completion of the project.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

- A. Fairbanks Morse
- B. Cornell Pump Company
- C. An acceptable equivalent manufacturer.

2.02 PUMPING EQUIPMENT SCHEDULE

- A. The contractor shall furnish and install vertically mounted, coupled, end suction, solids handling, centrifugal pumping unit as specified herein at the locations listed below:

<u>Description</u>	<u>Quantity</u>
Quinobequin Pump Station	1

- B. The Pump Station pump shall have the necessary characteristics and be properly selected to perform under the following operating conditions:

Design Point	5,000gpm @ 91' TDH
Minimum Efficiency over Pumping Range	75%
Minimum Horsepower	75
Maximum Allowable Operating Speed, RPM	1,200
Minimum Spherical Solid Diameter to be Passed	3 inches

The existing pump and motor has the following model and serial numbers, and characteristics:

Pump

Manufacturer: ***Fairbanks Morse***
Serial No.: K3W1-070295-3
Diameter: 10" Suction
10" Discharge

Motor

Manufacturer: ***Marathon Electric***
Size: 150 horsepower, 460-volt, 3 phase, 60 hertz, 1185 rpm
Frame: 445TSC
Type: TDS
Code: G

2.03 PUMP:

A. The centrifugal pump shall be a vertical close-coupled type unit. The unit shall include pump, high ring base, coupling, coupling guard and vertical solid shaft motor.

B. PUMP BASE:

1. The pump shall be supported by a cast-iron or fabricated steel pedestal base with openings large enough to permit access to the suction line to the inspection opening in the suction elbow. The base shall be rugged enough to support the full weight of the pump. The legs of the pedestal base shall be of such length that the suction elbow of the pump will not touch the floor or the level foundation upon which it is anchored.
2. The base shall be suitable for attachment to existing foundation materials. The pump manufacturer shall investigate the existing composite pump base support foundation pads, and provide such adapter plates and/or fabricated components as necessary to result in correct alignment of pump suction and discharge nozzles to existing piping connection points. The pump manufacturer shall provide all anchorage and attachment hardware for installation, leveling and securing base to the existing composite foundation. All leveling shims, anchor bolts, and associated hardware shall be 316 stainless steel.

C. CASINGS:

1. The pump casing shall be made of hard, close-grained cast iron conforming to ASTM A48, Class 30, of ample thickness, capable of prolonged resistance to the abrasive action of solids or foreign matter contained in the liquid passing through the pump. Ample and convenient access to the impeller and interior parts shall be provided by means of handholes, removable plates, or otherwise as approved.
2. Handholes shall be equipped with covers designed for easy removal. The interior surface of the covers shall be shaped to continue the contour of the interior of the casing to which it is attached so as to maintain efficiency and to prevent lodging of solids.
3. The high point of the casing shall be fitted with an air vent and the low point fitted with a drain.
4. The pump suction and discharge nozzles shall be drilled and tapped for installation of pressure gauges and the suction and discharge connections shall have flanges faced and drilled in accordance with the 125-pound American Standard.

5. The pump casing shall be tested under a hydrostatic head of at least 75 psi or 150 percent of the rated shut-off head, whichever is greater.
6. Pump design shall incorporate double suction wear rings, of the peripheral design, requiring no axial adjustment. One wear ring shall press-fit into the case, with the corresponding mating ring press fit onto the impeller. Wear rings shall be replaceable AISI 420 stainless steel.

D. SUCTION COVER / ELBOW

1. The suction cover/elbow shall be a separate cast piece, made of ASTM A48 Class 30 Cast Iron. The cover shall bolt in a register fit to the pump volute. The elbow shall incorporate a bolt-on contoured cleanout cover.
2. The suction flange shall be designed to accept an ANSI Class 125 lbs. flange of the size specified herein.

E. FRAMES:

1. The fronthead shall be made of close-grained cast iron conforming to ASTM A48 Class 30. The fronthead shall be cast separately and connected to the (suction elbow) combination base elbow).
2. The back head adapter shall be cast iron construction, flanged and machined on both ends to maintain alignment between the pump and driver and to eliminate vibration. The back head frame shall be built to allow for complete removal of bearings, shaft and impeller by unbolting it from the volute casing.
3. The main frame shall be made of hard, close-grained cast iron and shall be fitted to the casing with machine-faced joints. The design shall be heavy and rigid, so as to resist safely and without distortion the stresses due to impeller thrust and the bearing loads. The frame shall have housings for two sets of grease-lubricated ball or roller bearings. If ball bearings are used, at least one set shall be a combination radial and thrust bearing. Bearings shall be mounted in dust and moistureproof enclosures incorporating lip-type grease seal in contact with the shaft to prevent the entrance of contaminants. Jacking bolts for external impeller adjustments are required. Zerk-type grease fittings for bearing lubrication shall be supplied at the bearing housings.
4. A suitable drain shall be provided at the low point of the main frame.

F. SHAFTS:

1. The pump shafts shall be high strength, AISI 1144 steel or better, “Stressproof” treated for hardness and strength. It shall be Owned to transmit full driver horsepower with a liberal safety factor and minimum deflection. The shaft shall be accurately machined and polished, and statically and dynamically balanced. Minimum shaft diameter shall be not less than 2.125 inches. All steps in shaft diameter shall be radiused.
2. Shaft deflection shall not exceed 0.002 inches, as measured at end of suction wear ring, when operating at design conditions. Pump manufacturer shall submit a shafting stress analysis in support of same.
3. A replaceable shaft sleeve shall be provided, extending through the stuffing box, positively locked to prevent rotation, and sealed to the shaft utilizing an O-ring fit into an internal groove on the sleeve. The sleeve shall be a minimum of 0.375” larger in O.D. than the shaft, and be constructed of stainless steel, heat-treated to a minimum Brinell hardness of 350.

G. IMPELLER:

1. The impeller shall satisfy the physical and tensile strength requirements of ASTM A48, Class 30.
2. The impeller shall be single-suction, symmetrical and statically and dynamically balanced, and of non-clog design. Non-clog impellers shall be built with a minimum number of vanes or blades and shall allow impeller waterways and clearance between the maximum size impeller periphery and volute cutwater to pass spherical solids as indicated in Section 2.02. Provision shall be made for external impeller adjustment without the use of shims.

3. Impeller vanes shall be free of sharp edges and waterways shall have smooth contours and well-rounded entrances. The impeller hub shall not have ports for reduction of thrust on the impeller. The impeller shall be key-seated and held securely to the shaft using a stainless steel washer and stainless steel lockscrew, or by an equally efficient method which shall permit easy removal of the impeller and shall also be capable of holding securely in the event of pump reversal to full runaway speed. No positioning adjustment shall be required.
4. The impeller shall accept a radial press-fit wear ring which requires no "on site" external adjustments. External adjustments for the wearing surfaces shall not be accepted. Removable wearing rings made of stainless steel of different degrees of hardness shall be installed on the impeller and in the pump casing at the suction side. They shall be securely fastened to prevent any relative rotation, and shall be designed to compensate for a minimum of one-eighth inch wear. The casing wearing ring shall not contain less than 7 percent chromium.

H. BEARINGS:

1. Pump bearings shall be of the ball or roller type. Each pump shaft shall be supported by two sets of bearings suitable for the entire loads and arranged for grease lubrication. The outboard bearing shall be of the angular contact, duplex mounted type ball bearing for thrust and radial loads. The inboard bearing shall be of the spherical roller type, being self aligning.
2. The bearings shall be properly protected from corrosion during shipment and installation. Bearings shall be designed in accordance with the Anti-Friction Bearing Manufacturers Association, Inc. Standards for 40,000 hours minimum life at conditions of operation. All bearings shall have a minimum L-10 life of 100,000 hours.

I. MECHANICAL SEALS:

1. A backplate with deflector vanes constructed of ASTM A48 Class 30 Grey Iron shall be provided, including a single mechanical seal, John Crane Type 1 of material code BD80581 (Tungsten Carbide versus Silicon Carbide). The design shall allow for continuous operation without the need for external flush water or venting.
2. The seals shall be equipped with flushing assemblies. The volutes shall be tapped and 3/4-inch brass piping shall be installed to convey water from the volute to the filter housings. Each filter housing shall contain a 10-micron filter. Water shall be conveyed from the filters to the seals through 1/4-inch tygon tubing. A ball valve shall be installed on either side of the filters to allow the replacement as required.

J. FLEXIBLE COUPLING:

The coupling between the pump and motor shall be an all-steel grid type, flexible coupling, designed for both angular and parallel misalignment and free-end float, and shall be provided with means of lubrication.

K. MOTOR:

1. The motor shall be vertical, totally enclosed, fan cooled, premium efficiency, squirrel cage, induction type, rated for continuous duty operation. NEMA Class F insulation with NEMA Class B temperature rise based on a 40 degree C ambient temperature, 1.0 service factor for operation on variable frequency and capable of operating on 3 phase, 60 Hertz, 460 volt current. The motor shall be designed, manufactured and tested in accordance with NEMA standard MG1.
2. The speed and horsepower rating of the motor shall be as indicated in 2.02 PUMPING EQUIPMENT SCHEDULE. The motor shall have a KVA per horsepower rating of NEMA code letter G or lower.
3. The motor manufacturer shall certify in writing that the motors meet the limits for amplitude and velocity of vibrations as outlined by the manufacturer.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Installation of the pump and related appurtenances shall be performed in accordance with all written instructions furnished by the manufacturer.

- B. After installation, the Contractor shall clean all surfaces damaged in shipment or installation and shall touch up in the field with the same materials as the original coatings.

3.02 FIELD ACCEPTANCE TESTS:

- A. After installation of the equipment and after completion of the services of the manufacturer's representative, the Contractor shall operate the unit to demonstrate its ability to pump without excessive vibration, overloading of the motor, or overheating. The pump shall be operated for a sufficient period of time to permit thorough observation of all pump components.
- B. Start-up and testing shall be conducted in accordance with Section 1752, STARTUP AND TESTING.
- C. Performance tests shall be conducted on the pumping unit installed. The tests shall be conducted for the parameter of head capacity, overall system efficiency, and overall system power requirements. These parameters shall be measured and documented in writing.
- D. All pumping equipment shall be tested to check for proper operation, proper alignment, faulty equipment, and for excessive vibration. The Contractor shall provide vibration testing by a qualified and independent testing company. This testing of the complete system shall cover all duty conditions outlined in this Section of the Specifications. The vibration testing shall be conducted in the presence of the pump and pump motor field service representatives in accordance with procedures outlined in the applicable sections of the Hydraulic Institute Standards.
- E. In the event vibration exceeds the specified limits and the cause of the vibration is attributable to the pumping equipment, the equipment manufacturers shall make the necessary balancing or alignment adjustments to bring the equipment to within the specified limits.
- F. The completed pump and motor installation shall be tested for sound generation in accordance with the Hydraulic Institute Standards for sound measurement from pumping equipment.
- G. Any and all alterations, modifications, additions and/or work necessary to rectify defects or non-conformance with this Section of the Specification shall be in such a manner as to provide for the satisfactory operation of the pump and pump motor, all at no additional cost to the Owner.
- H. All defects and defective equipment shall be corrected or replaced or corrected by methods approved by the Owner, promptly at the Contractor's expense.
- I. All final adjustments necessary to place the equipment in satisfactory working order shall be made prior to the tests.
- J. If sufficient sewage is not available for the test, the Contractor shall provide water for testing. The Contractor shall furnish all labor and materials necessary for the test.
- K. After installation, all piping connections shall be tested for tightness in an approved manner. Should leaks be found, faulty joints shall be repaired, even to the extent of disassembling and remaking the joint, and all defective pipe and fittings shall be removed and replaced in a manner satisfactory to the Owner.

3.03 SPARE PARTS:

- A. The Contractor shall furnish and deliver to the Owner at the site of the work the following spare parts, all of which shall be identical and interchangeable with similar parts installed in the work.
 - 1. One set of gaskets required for each pump.
 - 2. One complete set of wearing rings for each impeller and bearing.

END OF SECTION 11310

SECTION 01752

STARTUP AND TESTING

PART 1 – GENERAL

A. WORK INCLUDED:

This Section includes the startup and testing services required for the pump station during system startup.

B. SYSTEM DESCRIPTION:

C. The Contractor shall perform pump station startup to the satisfaction of the Owner. Startup and testing shall not be initiated until all required certifications and other required documentation has been submitted, as described herein.

D. The purpose of the startup test is to provide a final operational checkout of all equipment prior to beneficial use by the Owner.

E. As most components of each pump station are interrelated, substantial completion of the project shall not be certified until successful completion of startup.

F. SEQUENCING:

Testing, operator training and other like services to be provided under the technical sections of the specifications are not to be performed during startup without written authorization from the Owner.

G. SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF THE GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

H. Three copies of the following shall be forwarded to the Owner for review two (2) weeks prior to commencement of startup:

I. Certification by a representative of the manufacturer that each piece of equipment has been installed properly and is ready for operation.

J. Certification by a representative of the equipment manufacturer that all equipment requiring calibration has been properly calibrated.

K. A schedule of the testing, including staffing, and specific testing and operation of individual equipment items.

L. At the conclusion of the test, all information recorded during the test shall be forwarded to the Owner.

C. This test is not to be utilized as a general debugging of the system. All equipment shall be started, tested and calibrated prior to this test. This includes automatic and manual operation as well as instrumentation interfacing.

PART 2 – PRODUCTS – NOT APPLICABLE

PART 3 – EXECUTION

M. PREPARATION:

N. Prior to commencement of testing, the Owner shall be given three (3) days' written notice.

O. The Contractor shall complete final debugging prior to startup.

P. All telemetry equipment shall be operational prior to testing.

Q. The test shall be performed.

3.02 TEST PROCEDURES:

- R. It is the general responsibility of the Contractor to insure that all equipment is completely operational throughout the test; provide the Owner with proper technical assistance as required to completely test all equipment and alarms; provide adequately trained personnel who can operate the pump station on an on/off basis so that the equipment is not damaged, whether the Owner or Owner is present or not during that portion of the test.
- S. It is the general responsibility of the Owner during the test period to supervise the testing of all equipment, associated alarms and devices; to vary the operation of the equipment as necessary, and to pump as required.
- T. STOPPING OF TEST:
- U. The Owner shall stop the testing for any of the following reasons:
- V. Failure of critical system, including:
- W. Pump
- X. Failure of any of the above systems to operate on standby power.
- Y. If the test is stopped for any reason, the test shall be restarted from the beginning. The Contractor shall pay all costs associated with the Owner supervising additional testing as required.

END OF SECTION 01752

SECTION 16050

ELECTRICAL WORK

PART 1 - GENERAL

1.01 WORK INCLUDED:

- A. The Contractor shall furnish all labor, materials, equipment and incidentals required to make ready for use the complete electrical systems as shown on the Drawings and as specified hereinafter.
- B. In conjunction with other sections of Division 16, the work shall include furnishing and installing the following:
 - 1. Electrical raceway systems
 - 2. Wires and cables
 - 3. Miscellaneous equipment
- C. Make all necessary connections at "packaged" equipment furnished under other sections and Divisions of these specifications.
- D. Make all connections to equipment and devices furnished under Division 16 and other sections of these specifications except as otherwise specified.
- E. Connect process and instrumentation cables furnished with field-mounted equipment under other sections and Divisions of these specifications.
- F. Mount all motor control equipment enclosures not factory mounted, unless otherwise indicated.
- G. It is the intent of these specifications that the electrical system shall be suitable in every way for the service required. All material and all work which may be reasonably implied as being incidental to the work of this section shall be furnished at no extra cost to the Owner.

1.02 RELATED WORK:

- A. The Contractor's attention is directed to the General Conditions, Supplementary Conditions.
- B. Excavation and backfilling required for underground electrical work is included under Division 2.
- Z. Concrete work and reinforcing for electrical equipment pads is included under Division 3.

1.03 CODES, INSPECTIONS AND FEES:

- A. All material and installations shall be in accordance with the latest edition of the Massachusetts Electrical Code and all applicable local codes and ordinances.
- B. Obtain all necessary permits and pay all fees for permits and inspections.

1.04 PERFORMANCE OF WORK:

- A. Each three-phase circuit shall be run in a separate conduit unless otherwise shown on the Drawings.
- B. Where circuits are shown as "home-runs" all necessary fittings and boxes shall be provided for a complete raceway installation.
- C. Any work installed contrary to or without review by the Owner shall be subject to change as directed by the Owner, and no extra compensation will be allowed for making these changes.

- D. Exact locations shall be as determined by the Owner during construction. Obtain in the field all information relevant to the placing of electrical work and in case of any interference with other work, proceed as directed by the Owner and furnish all labor and materials necessary to complete the work in an acceptable manner.
 - E. Furnish all labor and materials necessary to install and place in satisfactory operation all power, and other electrical systems. Additional circuits shall be installed wherever needed to conform to the specific requirements of the equipment.
 - F. All connections to equipment shall be made as required and in accordance with the approved shop and setting drawings.
- 1.05 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:
- A. Complete shop drawings shall be submitted.
 - B. The manufacturer's name, product designation or catalog number, descriptive literature and data shall be submitted for the following material and equipment:
 - 1. Conduit
 - 2. Wires, cables and appurtenances
 - C. Prior to submittal, all shop drawings shall be checked for accuracy and conformance to contract requirements. Shop drawings shall bear the date checked and shall be accompanied by a statement that the shop drawings have been examined for conformity to the specifications and drawings. This statement shall also list all discrepancies with the specifications and drawings. Shop drawings not so checked and noted shall be returned.
 - D. The Owner's review shall be only for conformance with the design concept of the project and compliance with the specifications and drawings. The responsibility of, and the necessity of, furnishing materials and workmanship required by the specifications and drawings which may not be indicated on the shop drawings is included under the work of this section.
 - E. The responsibility for all dimensions to be confirmed and correlated at the job site and for coordination of this work with the work of all other trades is also included under the work of this section.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. The materials used in all systems shall be new, unused and as hereinafter specified. All materials, where not specified, shall be of the very best of their respective kinds. Samples of materials or manufacturer's specifications shall be submitted for review as required by the Owner.
- B. Materials and equipment used shall be Underwriters' Laboratories, Inc. listed.
- C. Electrical equipment shall at all times during construction be adequately protected against mechanical injury or damage by water. Electrical equipment shall not be stored out-of- doors. Electrical equipment shall be stored in dry permanent shelters. If any apparatus has been damaged, such damage shall be repaired at no additional cost. If any apparatus has been subject to possible injury by water, it shall be thoroughly dried out and put through such special tests as directed by the Owner, or shall be replaced at no additional cost to the Owner.
- D. The Contractor's attention is directed to the requirements of the various sections of Division 16 for additional product specifications.

2.02 MANUFACTURER'S NAMEPLATES:

- A. All equipment shall have the manufacturer's name, address, model or type designation, serial number and all applicable ratings clearly marked thereon in a location which can be readily observed after installation. The required information may be die-stamped into the surface of the equipment or may be marked on durable nameplates permanently fastened to the equipment.

PART 3 - EXECUTION

3.01 TESTS AND ADJUSTMENTS:

- A. Test all systems furnished under Division 16 and repair or replace all defective work. Make all necessary adjustments to the systems and equipment and instruct the Owner's personnel in the proper operation of the systems and equipment. The Owner reserves the right to videotape the instruction sessions for future use in training.
- B. The Contractor's attention is directed to requirements of the various sections of Division 16 for additional test specifications.

END OF SECTION 16050

SECTION 16120
WIRES AND CABLES

PART 1 - GENERAL

- 1.01 **WORK INCLUDED:**
- A. Furnish, install and test all wires, cable and appurtenances as shown on the drawings and as specified hereinafter.
 - B. The Contractor's attention is directed to the requirements of Section 16050, ELECTRICAL WORK - GENERAL PROVISIONS.
- 1.02 **SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:**
- A. Samples of proposed wire shall be submitted for review. Each sample shall have the size, type of insulation and voltage stencilled on the jacket.
 - B. Acceptable samples will be sent to the project locations for comparison by the Owner with the wire actually installed.
 - C. Installed, unacceptable wire shall be removed and replaced at no additional cost to the Owner.
 - D. Manufacturer's data and descriptive literature shall be submitted for all wire and cable.
- 1.03 **APPLICATIONS:**
- A. Wire for power and lighting circuits shall be Type XHHW.
 - B. Wire for control, indicating and metering circuits shall be Type THWN, No. 14 AWG, 19-strand.
 - C. Ground wires shall be Type XHHW or THWN, green.
 - D. Except for control, indication, metering and signal wiring, no conductor smaller than No. 12 AWG shall be used. Wire sizes shall be not less than required by the Massachusetts Electrical Code.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Conductors shall be annealed, 98 percent conductivity, soft-drawn copper.
- B. All conductors No. 10 AWG and larger shall be stranded.

2.02 BUILDING WIRE:

- A. Type XHHW wire shall be 600 volt, cross-linked polyethylene insulated, as manufactured by Pirelli Cable Corp., Collyer Insulated Wire Co.; the Okonite Co., or equal.
- B. Type THWN wire shall be 600 volt, cross-linked polyethylene insulated with nylon jacket, as manufactured by Pirelli Cable Corp., Collyer Insulated Wire Co.; the Okonite Co., or equal.

2.03 WIRE MARKERS:

- A. Wire markers shall be self-adhesive, vinyl coated, polyester film.

2.04 TERMINALS:

- A. Wire terminals shall be insulated, crimp type with tin plated, copper flanged fork and serrated barrel.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. All conductors shall be carefully handled to avoid kinks or damage to insulation.
- B. Lubrication shall be used to facilitate wire pulling. Lubricants shall be U.L. listed for use with the insulation specified.
- C. Crimp type terminals shall be used at all screw type control wire terminals.
- D. All wires and cables shall be uniquely identified with wire markers at each termination and splice.

END OF SECTION 16120

SECTION 16130

RACEWAYS

PART 1 - GENERAL

1.01 WORK INCLUDED:

- A. The Contractor shall furnish and install the complete raceway systems, with all accessories, fittings, boxes, etc., as shown on the drawings and as specified hereinafter.
- B. The Contractor's attention is directed to the requirements of Section 16050, ELECTRICAL WORK - GENERAL PROVISIONS.

1.02 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

- A. Manufacturer's data and descriptive literature shall be submitted for all materials specified hereinafter.

1.03 APPLICATIONS:

- A. All wiring shall be installed in rigid steel conduit, except as otherwise shown on the drawings or specified hereinafter.
- B. Fittings, exposed switch, outlet and control station boxes and other exposed boxes 4" square and smaller shall be cast or malleable iron.
- C. Liquidtight, flexible metal conduit shall be used for all connections to equipment subject to vibration.
- D. No conduit smaller than 3/4" electrical trade size shall be used, except as otherwise shown on the drawings. Box sizes shall not be less than that required by the Massachusetts Electrical Code.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Rigid steel conduit shall be heavy-gauge steel, hot-dipped galvanized per ASTM A123 inside and outside over the entire length including threads and shall have an additional factory-applied sealing finish inside and outside. Conduit shall be as manufactured by Youngstown Sheet and Tube Co.; Allied Tube and Conduit Corp.; Wheeling-Pittsburg Steel Corp., or equal. Rigid steel conduit shall be furnished with a coupling on one end and thread protector on the other.
- B. Liquidtight, flexible metal conduit shall consist of a flexible, corrosion resistant metal core with an extruded, watertight, synthetic jacket. Conduits smaller than 1-1/2" shall have a continuous ground conductor under the jacket. Conduit shall be sealtite Type UA manufactured by Anaconda Metal Hose Div., or as manufactured by American Flexible Conduit Co., Inc.; Universal Metal Hose Co.; or equal.
- C. BOXES AND FITTINGS:
 - 1. Sheet metal boxes shall have continuously welded seams, ground smooth. Steel boxes shall be hot-dipped galvanized after welding. Box bodies shall be flanged and shall be without holes or knockouts. Bodies shall be not less than 14 gauge metal and covers shall be not less than 12 gauge metal. Covers shall be gasketed and fastened with stainless steel hardware. Boxes shall be as manufactured by Hoffman Engineering Co.; Superior Switchboard & Devices; Sun Metal Products Div; or equal.
 - 2. Cast or malleable iron boxes and fittings shall have cadmium-zinc finish with cast covers and stainless steel screws as manufactured by the Crouse-Hinds Co.; Appleton Electric Co.; L.E. Mason Co.; or equal.

3. Conduit elbows shall be of the same material and construction as the conduits to which they are connected.
 4. Conduit hubs shall be as manufactured by Myers Electric Products, Inc.; Raco, Inc.; Appleton Electric Co.; or equal.
 5. Fittings used with liquidtight, flexible conduit shall be of the screw-in, compression type with sealing ring. Fittings larger than 1-1/4" shall be furnished with integral ground lugs. Fittings shall be as manufactured by Thomas and Betts Co.; Crouse-Hinds Co.; Appleton Electric Co.; or equal.
- D. Hangers, rods, backplates, beam clamps, etc. shall be hot-dipped galvanized iron or steel. They shall be as manufactured by the Appleton Electric Co.; Thomas and Betts Co.; Unistrut Corp.; or equal. Items used in the chlorine room shall have a factory-applied PVC coating.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Exposed conduits shall be run parallel to or at right angles to walls. Conduit runs shall be straight and true. Conduit shall be supported by means of one-hole pipe clamps. One-screw backplates shall be installed where required to raise conduits from the surface. Multiple, horizontal runs shall be supported on trapeze hangers with steel horizontal members and threaded rods not less than 3/8 inches diameter. Hangers shall be attached to structural steel by means of beam clamps. Spot type inserts shall be used in concrete.
- B. Conduit bends shall be carefully made to prevent distortion of the circular cross-section. No conduit run shall have more than the equivalent of three 90 degree bends between pulling points. Changes in direction shall be made with bends, standard elbows and pull boxes. Bends in parallel runs shall be concentric.
- C. Conduit shall not be supported from piping, piping supports, or mechanical equipment subject to vibration or removal.
- D. The ends of all conduits shall be tightly plugged during construction until wires are to be pulled. Spare conduits shall be furnished with threaded caps.
- E. Conduits shall be terminated at pressed steel boxes and ungasketed sheet metal enclosures with double locknuts and suitable bushings. Bushings installed on conduits containing ground wires shall be grounding type. Conduits shall be terminated at gasketed sheet metal enclosures with conduit hubs.
- F. Steel conduit connections shall be made with threaded fittings.
- G. Wire shall not be pulled until the conduit system is complete in all details.

END OF SECTION 16130

SECTION 16483

VARIABLE FREQUENCY DRIVE SYSTEM

PART 1 – GENERAL

1. WORK INCLUDED:

- A. The Section covers furnishing, installation and testing of variable frequency drive (VFD) and appurtenances, complete as herein specified.

2. SYSTEM DESCRIPTION

- A. The variable frequency drive system specified herein is intended to replace the existing motor starter for the 200-horsepower motor for pump no. 4 at the Quinobequin Wastewater Pump Station.
- B. The existing reduced voltage transformer starter and associated component shall be removed from the motor control center (MCC). The main breaker and run indicators shall remain.
- C. A new 200-horsepower VFD shall be mounted above the MCC in place of the reduced voltage starter. The new VFD shall have the display and programmer remotely mounted on the MCC enclosure door.

3. QUALITY ASSURANCE:

4. ALL EQUIPMENT SHALL CONFORM TO THE FOLLOWING CRITERIA:

1. Equipment shall be a manufacturer's standard product presently in commercial production.
2. This specification directs special attention to certain features, but does not purport to cover all the details of the design, manufacture or installation of the VFD. Final responsibility for supplying and installing the VFD which functions as specified herein rests with the Contractor and his suppliers.
3. Conform to Hydraulic Institute Standards.
4. All equipment specified under this Section shall be furnished by a single supplier and shall be products of manufacturers regularly engaged in the production of said equipment. The supplier shall have the sole responsibility for proper functioning of the complete VFD.
5. Any reference to a specific manufacturer or model number is for the purpose of establishing a quality or parameter for specification writing and is not to be considered proprietary. In all cases any source or device that has the quality and operating capabilities specified may be acceptable.
6. Conform to requirements for materials, installation and equipment approvals of state, local, Underwriter's Laboratories, Inc., or other applicable codes, whether or not called for on the drawings or in the specifications.
7. Workmanship and the method and materials of construction shall conform to the best practice and highest standards applicable for the design use as specified.
8. The VFD equipment specified herein shall be designed and sized by the supplier, who shall assume responsibility for the correct operation of the system. The supplier shall have successfully manufactured, installed and started-up at least 10 systems similar to this installation in the past 5 years.

5. MANUFACTURER'S QUALIFICATIONS:
6. On request from the Owner, the variable frequency drive (VFD) manufacturer shall demonstrate proof of financial responsibility with respect to performance and delivery date.
7. On request from the Owner, the VFD manufacturer shall provide proof or evidence of facilities, equipment and skills required to produce the equipment specified herein.
3. The manufacturer shall provide the supervisory service of a factory trained Owner, who is specifically trained on the type of equipment supplied, for a period of not less than 4-hours to assist in installation of the VFD and related appurtenances, to provide initial startup and to instruct the Owner's operating personnel in the operation and maintenance of the equipment provided. The specified time period is a minimum time requirement. The actual time required to complete the specified tasks may take longer, but shall be completed at no additional cost to the Owner.
4. The manufacturer of the VFD specified herein shall have a factory trained service Owner in residence for at least 50 major cities within the United States.
8. REFERENCES:
- A. The VFD and all components shall be designed, manufactured, and tested in accordance with the latest applicable standards of ETL, UL, ANSI, and NEMA.
9. SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:
- A. Prior to shipment, the Contractor shall submit to the Owner for review, six copies of each of the following: complete shop drawings, complete wiring diagrams, complete operating and maintenance instructions, parts lists, and complete Bill of Materials. The certified pump curves shall show the actual performance of the pumps under factory testing.
- B. A complete, easily readable functional description of the proposed equipment.
- C. Upon completion of installation, the results of the field and acceptance tests as specified under this section of the specification shall be submitted to the Owner.
- D. Furnish written certification from the manufacturer's representative of the proper installation of each component.
- E. OPERATIONS AND MAINTENANCE MANUALS (six sets):
1. Complete operations and maintenance information for this specific equipment.
2. Furnish "Operation and Maintenance" manuals of all equipment supplied and installed. Manuals shall contain, but not be limited to, a complete bill of materials, a preventative maintenance schedule, a list of troubleshooting information, assembly drawings with components clearly identified and numbered, parts lists, wiring diagrams, pertinent technical data and factory service information, warranties and emergency telephone number(s).
3. These manuals shall be reviewed by the Owner for completeness; those that are deemed inadequate shall be returned for correction.
4. Complete parts list including the manufacturer's reference and ordering numbers.

5. A complete list of the manufacturer's name, address and phone number, the local representative's name, address and phone number, the model number and serial number of all equipment supplied
6. Recommended Spare Parts List.

F. INSTALLATION SUBMITTALS (SIX SETS):

10. Upon completion of installation, the results of the field and acceptance tests as specified under this section of the specification shall be submitted to the Owner.
11. Furnish written certification from the manufacturer's representative of the proper installation of each component.

12. STORAGE:

- A. The contractor shall receive, store, and safeguard all equipment, materials, and spare parts at the job site.

13. WARRANTY:

14. The VFD manufacturer shall warranty that the equipment they supplied under this Section fully meets the criteria specified herein, and shall further warranty that the equipment is free from all defects in materials and workmanship.
15. The manufacturer's warranties from defects shall contain a provision that the manufacturer shall repair or replace any defects, to the satisfaction of and at no additional cost to the Owner, for a period of sixty (60) months for the VFD, from the date of Substantial Completion of the project.

PART 2 – PRODUCTS

2.01 VARIABLE FREQUENCY DRIVE SYSTEM

A. VARIABLE SPEED A/C CONTROLLER

1. The alternating current (a/c) drive system outlined below shall provide variable speed to the existing electric motor at the pump station. The motor specifics are as follows:
 - Voltage, V – 460
 - Phase – 3
 - Amps – 177
 - Horsepower, hp – 200
 - Hertz, Hz – 60
16. The VFD equipment specified herein shall be designed and sized by the supplier, who shall assume responsibility for the correct operation of the system. The supplier shall have successfully manufactured, installed and started-up at least 10 systems similar to this installation in the past 5 years.
17. The manufacturer of the VFD equipment specified herein shall have a factory trained service Owner in residence for at least 50 major cities within the United States.
18. The VFD's shall be as manufactured by Cutler Hammer, Cleveland, OH, and shall be model SV9200AS-5M0A00 with remote keypad mounting kit.
19. 3% line reactors shall be furnished for installation between the power supply and each drive cabinet.
20. The VFD shall consist of a 200 hp, 480-volt, three, phase rated unit including but not limited to main circuit breaker, operator keypad, fault diagnostics, NEMA 1 enclosure, complete micro processor based circuitry, electrical system interface and all associated equipment and accessories required to make a complete and operable system.

7. The Variable Frequency Drive (VFD) shall be of a Pulse Width Modulated (PWM) design.
21. The VFD's shall be of the Pulse Width Modulated (PWM) design converting the utility input voltage and frequency to a variable voltage and frequency output via a two-step operation. Variable Current Source VFD's are not acceptable. Insulated Gate Bipolar Transistors (IGBT's) shall be used in the inverter section. Bipolar Junction Transistors, GTO's or SCR's are not acceptable.
 - a. The VFD shall be microprocessor based and utilize digital input for parameter adjustments. Use of potentiometers for parameter adjustment is not acceptable.
 - b. The VFD shall automatically attempt to restart after a malfunction or an interruption of power. The number of attempted restarts shall be customer selectable (0 to 5). If the drive reaches the limit of restarts without successfully restarting and running for a customer selectable length of time (60 to 600 seconds), the restart circuit shall lockout and shall provide contact annunciation.
 - c. A current limit circuit shall be provided to limit motor current to a preset variable maximum level by reducing the drive operating speed or acceleration rate when the limit is reached. Range of adjustment shall be from 50 to 110%.
 - d. The VFD shall include a digital display and digital input programming capability on the main logic board. The display shall; be programmable for indication of output speed in rpm, frequency or percent of base speed: motor amps, output motor volts, kilowatts and output load. The display shall also function as a first fault indicator. The VFD shall be programmable to display a maintenance schedule. Displays shall be labeled for the item and units.
 - e. The VFD shall provide a minimum of four selectable frequency jump points, in 1.5 Hz increments, to be used to avoid critical resonance frequencies of the mechanical system.
 - f. The input signal follower circuit shall have selectable differential inputs and accept an electrical speed command from an external source rated at 4-20 ma or voltage signals of 0-5 or 0-10 Vdc. The input follower circuitry shall be capable of operating directly or inversely proportional to the above listed speed commands.
 - g. Continuous electronic motor overload protection shall be provided which is capable of predicting motor winding temperature based on inputting specific parameters including motor design type – TEFC, ODP and speed range. The protection shall provide an orderly shutdown should the motors thermal capabilities be exceeded.
 - h. The VFD shall include three configurable output relays rated at 7 amps minimum and 4 digital outputs.
 - i. The VFD shall include analog output signals for output load and motor voltage.
 - j. Up to five preset speeds shall be selectable through a communications port, or contact closures. Up to eight (8) preset speeds shall be selectable through terminal inputs. The individual speeds shall be customer variable and selectable.
 - k. The VFD shall include proportional and integral gain constant inputs for process control requirements.

- l. The VFD stopping mode functions shall be selectable for coast to rest or stopping at programmed decelerate.
 - m. The VFD shall provide up to eight selectable V/Hz profiles.
 - n. Full wave rectification shall be achieved with input diode in a conventional bridge configuration and shall be used to supply voltage to the DC bus.
 - o. The DC shall be filtered by a series choke between the input section and one or more capacitors short circuit and ground fault protection. The use of DC bus chokes shall be required to reduce input transformer sizing requirements (by 25 to 50%) of the main power distribution transformer vs VFDs that use only dc bus capacitors. VFDs which use only bus capacitors require that input isolation transformers or input line filters be supplied. Use of isolation transformers reduces systems efficiency (4 to 5%) and will be weighted against designs where not required.
 - p. The inverter shall use semi conductor output devices to provide three-phase output power to the motor. The VFDs system efficiency data shall be provided at operating points (speed and load) typical for variable torque loads.
9. The VFD shall operate within the following output ratings.
 - a. Frequency range, 1-66 Hz
 - b. Frequency resolution, .1% of base speed with analog input .025% with digital input.
 - c. Frequency accuracy within .05% of setpoint.
 - d. Overload rating, 150% for one minute.
 22. The VFD shall provide 3% speed regulation.
 23. The VFD shall operate within 380 to 480 V +5%/- 10%.
 24. Standard setup adjustments shall include; Minimum speed, 0 to 60%; Maximum speed 45 to 100%; Linear accel, .5 to 600 seconds; Linear decel, .5 to 600 seconds; Maximum output voltage, variable; V/Hz, variable with selectable profiles; Current limit, 50 to 110%.
 25. The VFD shall operate within the following parameters without the requirements for derating:
 26. Operating temperature, -10 C to +50 C;
 27. Humidity, non-condensing at any temperature.
 28. Audible noise over full operating range, no greater than 85 dB within 3 feet of motor.
 29. The inverter switching frequency should be variable so that it may be tuned to minimize motor noise.
 30. Standard enclosure shall be NEMA Type 1 design.
 31. The VFD shall meet the following standards:
 32. National Electric Manufacturer's Association (NEMA)

33. National Electrical Code (NEC)
34. The VFD shall be designed to meet the following specifications and operate within the following parameters.
35. The VFD's power circuit shall be fused and isolated internally with respect to ground. Fuses to be rated minimally at 200,000 amperes interrupting capacity.
36. The power unit's logic common shall be at ground potential.
37. Phase loss protection shall be provided to prevent single phasing.
38. The VFD shall be capable of continued operation during an intermittent loss of power for 0.1 seconds (6 cycles). Opening of the VFDs input and/or output line switches while operating shall not result in damage to the power circuit components.
39. The VFD shall have an instantaneous electronic trip circuit to protect the VFD from output line-to-line and line-to-ground short circuits. The VFD must be capable of withstanding short circuits at 480V plus 10% (528V). Use of isolation transformers for ground fault protection reduces system efficiency (4 to 5%) and will be weighted against designs where not required. The VFD supplier must demonstrate ground fault and short circuit protection at time of start up or plant witness test. The VFD shall be capable of providing 110% motor current intermittently. The VFD shall include an instantaneous over current trip. The VFD shall not restart after electronic overcurrent trip until reset through the run/stop circuit or unless the auto restart function has been enabled.
40. Transient and surge voltage protection shall be provided through use of Metal Oxide Varistors (MOVs) and phase-to-ground filter capacitors.
41. The VFD shall include an unattended start lock out circuit.
42. The drive system shall be manufactured by Cutler Hammer.
43. A complete description of suppliers Quality Assurance and Testing program shall be provided to the OWNER.
44. All VFDs shall be tested/run in the equivalent of NEMA 1 enclosure. The burn in shall be conducted for a minimum of four hours at rated ambient (40 C) with a fully loaded motor.
45. All power semiconductors and integrated circuits shall be 100% tested.
46. Computerized Automated Testing Equipment (ATE) testing shall be used to evaluate functional performance of printed circuit board. Printed circuit boards shall receive a thermal stress test where temperatures are cycled between 0 C and 65 C and receive electrical power-on the power-off cycle tests.
47. ADDITIONAL FEATURES:
48. An operator panel shall be provided that provides for easy program entry of parameters. One/two digital displays shall be provided to display speed, load, motor amps, and motor volts. All parameters shall be input digitally to the VFD. Mnemonic indication shall be provided. 8/16 LEDs shall be provided to indicate drive enabled, drive fault, and drive at base speed. LEDs shall be used to indicate selected functions. A remote mounting kit shall be furnished with the VFD.
49. Terminals shall be furnished to permit connection of a remote RUN-STOP selector switch furnished under this section. With the switch in the stop position, the motor shall be de-energized regardless of any other switch or contact position.
50. All operator controls and indicators shall be accessible without operator exposure to live parts.
51. The VFD shall have the following options:

- 52. Manual Speed Potentiometer (furnished loose for remote mounting)
- 53. Operator Panel with remote mounting kit
- 54. Hand-Off-Auto Switch (furnished loose for remote mounting, include legend plate)
 - d. The VFD shall be wall mounted on the top of the existing MCC just above the motor starter for pump no. 4. The operator panel shall be remotely mounted on the MCC below the existing main breaker disconnect for pump no. 4, with arrangement and design as specified herein. The existing main breaker for pump no. 4 shall remain and used as the main breaker for the new VFD.
 - e. The VFD shall be wired to the existing pump no. 4 motor leads.
 - f. The control wiring shall be terminated inside the MCC with terminal boards and then connected to the VFD.
 - g. The existing motor failure output wiring shall be connected to the new VFD fault circuit.
- 55. SIGNAL CONVERTER:
 - 1. A signal converter shall be provided to convert the existing wet well level pressure signal to a 4-20 milliamp output signal. The signal converter shall be calibrated as follows:

0-inches = 4 milliamps
150-inches = 20 milliamps
 - 2. The signal converter shall be mounted inside of the existing level control panel and connected to the existing bubbler tube system.
 - 3. The Contractor shall be responsible to connect the 4-20 milliamp output of the signal converter to the VFD using a 16 gauge single pair shielded cable.
 - 4. The signal converter shall be as manufactured by Devar, Bridgeport, CT, Modus Instruments, Foxboro Co., Foxboro, MA, or approved equal.

PART 3 – EXECUTION

3.01 FIELD ACCEPTANCE TESTS:

- A. The field acceptance test shall be performed by the VFD manufacturer's representative.
- 56. Amperage and voltage readings shall be taken within the VFD load at full load or a maximum load.
- 57. The VFD shall operate as the lead pump for a period of forty-eight (48) hours with no faults.
- 58. The VFD manufacturer's representative shall provide instructions on the proper operation of the VFD.

3.02 MANUFACTURER'S SERVICES

- A. The services of a factory trained manufacturer's representative shall be provided as specified herein.
- B. The manufacturer's on-site representative shall have the following minimum experience in installation of these products:
 - 59. Variable frequency drive system – 20 installations.

C. Services to be provided:

For variable speed drive systems, the service representative(s) shall be responsible for complete component inspection on site after delivery and shall assist in the correct assembly of the components for a minimum period of two (2) eight-hour days.

- 60. For inspection and check out of erected equipment.
- 61. For start-up services and supervision.
- 62. For complete instruction of the operating personnel.
- 63. The minimum period of time herein specified does not relieve the manufacturer from providing sufficient time to satisfactorily complete the required service functions.
- 64. The manufacturer's representative shall certify in writing that the variable speed drive has been properly installed.
- 65. The Owner reserves the right to videotape the instruction of the operating personnel for future use in training.
- 66. SPARE PARTS:
- 67. Fuse Kit – 3 of each size fuse
- 68. Power Module Kit – 1 phase of rectifying and inverting power devices
- 69. Operator keypad

END OF SECTION 16483